GPSMAP 2006/2010

chartplotters

(GPSMAP 2006C and 2010C shown)

owner's
manual
and
reference
guide

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Preface

Congratulations on choosing one of the most advanced marine navigation systems available! The Garmin GPSMAP 2006/2006C/2010/2010C utilizes the proven performance of Garmin GPS and full featured mapping to create an unsurpassed marine navigation chartplotter.

To get the most out of your new navigation system, take the time to go through this owner's manual and learn the operating procedures for your unit. This manual covers both the monochrome and color models of the GPSMAP 2006 and 2010, software version 5.2 and higher. This manual is broken down into two sections for your convenience.

Section One introduces you to the GPSMAP 2006/2010 and provides a Getting Started tour so that you may become more familiar with the unit. This section will provide you with a basic working knowledge necessary to use the unit to its fullest potential.

Section Two is divided into sections that provide detailed references to the advanced features of the GPSMAP 2006/2010. This allows you to concentrate on a specific topic quickly and can be used to look up detailed information about the GPSMAP 2006/2010.

Software License Agreement

BY USING THE GPSMAP 2006/2010, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

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By phone at—

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By internet at—

http://www.garmin.com/support/index.html

Technical Support Product Registration

Have the external serial number of your GPSMAP 2006/2010 handy and connect to our web site (www.garmin.com). Look for the Product Registration link on the Home page. Also, be sure to record your serial number in the area provided on page iii of this manual.

MAP DATA INFORMATION: *One of the goals of Garmin is to provide customers with the most complete and accurate cartography that is available to us at a reasonable cost. We use a combination of governmental and private data sources, which we identify as required in product literature and copyright messages displayed to the consumer. Virtually all data sources contain inaccurate or incomplete data to some degree. This is particularly true outside the United States, where complete and accurate digital data is either not available or prohibitively expensive.*

CAUTION: *IT IS THE USER'S RESPONSIBILITY TO USE THIS PRODUCT PRUDENTLY. THIS PRODUCT IS INTENDED TO BE USED ONLY AS A NAVIGATIONAL AID AND MUST NOT BE USED FOR ANY PURPOSE REQUIRING PRECISE MEASUREMENT OF DIRECTION, DISTANCE, LOCATION, OR TOPOGRAPHY.*

WARNING: *This product, its packaging, and its components contain chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. This Notice is being provided in accordance with California's Proposition 65. If you have any questions or would like additional information, please refer to our web site at http://www.garmin.com/prop65.*

The GPS system is operated by the United States government, which is solely responsible for its accuracy and maintenance. The system is subject to changes which could affect the accuracy and performance of all GPS equipment. Although the Garmin GPSMAP 2006/2010 is a precision electronic NAVigation AID (NAVAID), any NAVAID can be misused or misinterpreted and, therefore, become unsafe.

The electronic chart is an aid to navigation and is designed to facilitate the use of authorized government charts, not replace them. Only official government charts and notices to mariners contain all information needed for safe navigation – and, as always, the user is responsible for their prudent use.

Use the GPSMAP 2006/2010 at your own risk. To reduce the risk of unsafe operation, carefully review and understand all aspects of this Owner's Manual—and thoroughly practice operation using the simulator mode prior to actual use. When in actual use, carefully compare indications from the GPSMAP 2006/2010 to all available navigation sources, including the information from other NAVAIDs, visual sightings, charts, etc. For safety, always resolve any discrepancies before continuing navigation.

FCC Compliance

The GPSMAP 2006/2010 complies with Part 15 of the FCC interference limits for Class B digital devices FOR HOME OR OFFICE USE. These limits are designed to provide more reasonable protection against harmful interference in a residential installation, and are more stringent than "outdoor" requirements.

Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures: Reorient or relocate the receiving antenna. Increase the separation between the equipment and the receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or and experienced radio/TV technician for help.

The GPS GPSMAP 2006/2010 does not contain any user-serviceable parts. Repairs should only be made by an authorized Garmin service center. Unauthorized repairs or modifications could result in permanent damage to the equipment, and void your warranty and your authority to operate this device under Part 15 regulations.

LIMITED WARRANTY

This Garmin product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, Garmin will at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

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Garmin retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local Garmin authorized dealer. Or call Garmin Customer Service at one of the numbers shown below, for shipping instructions and an RMA tracking number. The unit should be securely packed with the tracking number clearly written on the outside of the package. The unit should then be sent, freight charges prepaid, to any Garmin warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs.

Products sold through online auctions are not eligible for rebates or other special offers from Garmin. Online auction confirmations are not accepted for warranty verification. To obtain warranty service, an original or copy of the sales receipt from the original retailer is required. Garmin will not replace missing components from any package purchased through an online auction.

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Serial Number

Use this area to record the serial number (8-digit number located in the back of the unit) in case it is lost, stolen, needs service, or if you need to contact Technical Support. Be sure to keep your original sales receipt in a safe place or attach a photocopy inside the manual.

Serial Number:

☐☐☐☐☐☐☐☐

The Garmin GPSMAP 2006/2010 has no user-serviceable parts. Should you ever encounter a problem with your unit, please take it to an authorized Garmin dealer for repairs.

The GPSMAP 2006/2010 is fastened shut with screws. Any attempt to open the case to change or modify the unit in any way will void your warranty and may result in permanent damage to the equipment.

Designed for detailed electronic charting capability, the Garmin GPSMAP 2006/2010 are powerful navigation devices that can give you the navigation information you need:

Precision Performance

- The GPSMAP 2006/2010 features a high-contrast, ten-level gray, 640 x 480 LCD display with adjustable contrast and backlighting.
- The GPSMAP 2006C/2010C features a high resolution, 256-color, 640 x 480 color LCD display with adjustable brightness.
- GPS 17: 12-channel parallel receiver tracks and uses up to 12 satellites for fast, accurate positioning.
- DGPS; USCG and WAAS capable.
- Fully gasketed, high-impact plastic alloy case, waterproof to IEC 529-IPX7

Advanced Navigating and Plotting

- 3000 alphanumeric waypoints with selectable icons and comments.
- Built-in worldwide basemap includes detailed ocean, river and lake coastlines, cities, U.S. interstates, state highways, and built-in tide information from over 3,000 tide stations around the USA coastline, Alaska, Hawaii, western Canada, and several Caribbean Islands.
- 50 reversible routes with up to 254 waypoints each.
- Enhanced mapping with an additional data card and Garmin's BlueChart or MapSource PC products.
- Coordinates: Lat/Lon, UTM/UPS, Loran TD, plus sixteen grids, including Maidenhead.
- TracBack route feature, which allows you to quickly retrace your track log to a starting position.

Superior Fishfinding Ability (when combined with the GSD 20 Sounder Module)

- Whiteline feature provides a clear image of bottom hardness and structure.
- See-Thru technology, which helps separate fish returns from thermoclines and structure.
- Depth Control Gain (DCG) feature automatically adjusts fishfinder sensitivity according to depth.
- Four Zoom levels with a moving view window, plus bottom lock.
- Underwater waypoint marking.
- Map/Sonar split screen combines navigation and fishfinding ability.
- Fish and Depth alarms.

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"How To" Index

The list to the right is provided to help you quickly find some of the more important procedures you will use on your new GPSMAP 2006/2010.

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Data Card Slots
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Function Keys

The **IN** Key — adjusts the map scale to show a smaller area with more detail. (Zooms in)

The **OUT** Key — adjusts the map scale to show a larger area with less detail. (Zooms out)

The **PAGE** Key — cycles the unit through the main display pages in sequence and returns the display from a submenu page.

The **QUIT** Key — cycles the unit through the main display pages in a reverse sequence, restores the previous value in a data entry field, or cancels an unintended function such as a GOTO.

The **ENTER/MARK** Key — selects a highlighted menu option. When entering data, it allows you to initiate entry and then accept the selected value(s). It also marks the current location as a waypoint when pressed and held for more than one second.

The **MENU** Key — displays the Main Menu.

The **NAV** Key — displays a selection list allowing the user to select a navigation option.

The **FIND** Key — allows you to quickly access User Waypoints and other items used for navigation.

The **MOB** Key — immediately stores the location and gives the option of setting direct navigation.

The **POWER** ⏻ Key — is used to turn the unit on and off and to activate the backlight.

The **ARROW KEYPAD** — is used to select (highlight) menu options and enter data. It controls the Left/Right and Up/Down movement of the cursor.

Data Entry Keys

The Data Entry Keys are used when entering alpha-numeric data in the unit, such as a waypoint name. The Data Entry Keys can be used in conjunction with the **ARROW KEYPAD**. To select the first letter press the key once, to select the second letter press the key twice, to select the third letter press the key three times, or to select the number press the key four times. When you have correct letter or number selected, pause and the unit advances the cursor to the next character automatically.

Soft Keys

The Soft Keys are located along the bottom of the display and are used to select options for the page that is displayed. To select an option, press the Soft Key below it.

2006/2010 Basic Operation

Before moving ahead to the features of the GPSMAP 2006/2010, you will need to learn basic operations. Many times throughout this manual you will be prompted to press a key. When instructed, press, then release the key. If the key needs to be held down, the instructions will prompt you.

Turning the GPSMAP 2006/2010 ON:

1. Press the **POWER** ⏻ key.

As the unit powers on, a Warning Page is displayed. After reading the Warning Page, press the **ENTER/MARK** key to display the GPS Info on power-up window. (This window will be covered at the end of the Getting Started section.) Press the **ENTER/MARK** key to continue to the Map Page.

Adjusting the Contrast and Backlight

The 2006/2010 monochrome versions have adjustments for the Contrast and Backlighting, the color versions do not have a Contrast adjustment.

Adjusting the Contrast on Monochrome Units:

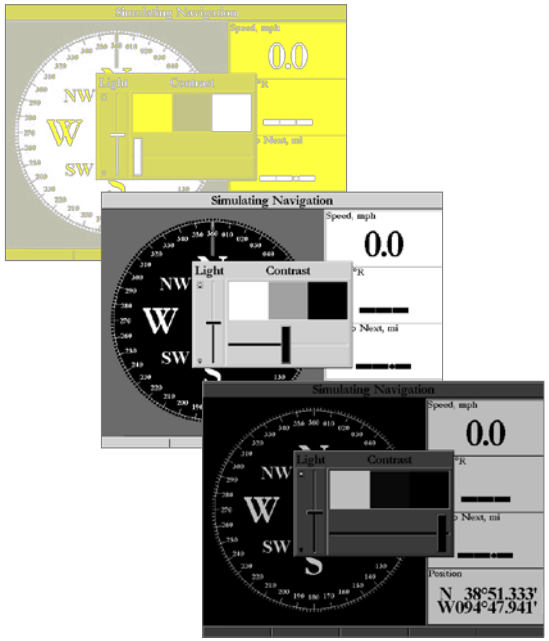
1. Press the **POWER** ⏻ key to display the Contrast/Backlight Adjustment Window.
2. Press the **ARROW KEYPAD** left to decrease (lighten) the Contrast
3. Press the **ARROW KEYPAD** right to increase (darken) the Contrast.

The Backlight can be turned off for operation in sunlight or increased in steps to produce the right lighting for the situation.

Activating the Backlight:

1. Press the **POWER** ⏻ key to activate the Backlight Adjustment Window.
2. To increase the backlighting, press the **ARROW KEYPAD** up.
3. To decrease the backlighting, press the **ARROW KEYPAD** down.

*TIP: After the Backlight Adjustment Window is activated, pressing the **POWER** key repeatedly will cycle through the backlight's three settings.*

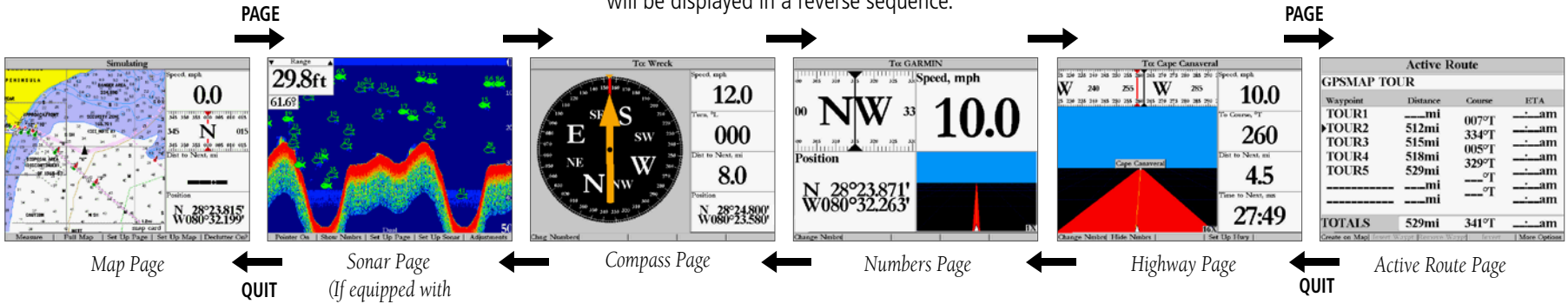


Contrast Adjustment on Monochrome Units Only

First let's take a look at the Main Display Pages as they come from the factory. There are five pages: the Map Page, Sonar Page, Compass Page, Numbers Page, Highway Page and the Active Route Page. When the unit is turned on the first Main Page displayed is the Map Page.

To scroll through the Main Display Pages:

1. Press the **PAGE** key. Each time the **PAGE** key is pressed the GPSMAP 2006/2010 will display the next Main Page.
2. The **QUIT** key acts like the **PAGE** key in reverse. Each time the **QUIT** key is pressed, the next Main Page will be displayed in a reverse sequence.



While learning the basic operation of the GPSMAP 2006/2010, let's put the unit into its Simulator Mode. The Simulator Mode is great for practicing with the unit. When the unit is in Simulator Mode, it will not accept GPS input, but will simulate satellite navigation. When in the Simulator Mode, the GPSMAP 2006/2010 CAN NOT be used for actual navigation.

NOTE: Do not try to navigate while using the Simulator Mode. When the GPSMAP 2006/2010 is using the built-in simulator, the unit is not accepting GPS input. The unit will, however, simulate actual satellite navigation.

Activating the Simulator Mode:

1. Press the **MENU** key.
2. With the 'GPS Info' tab displayed, at the lower left of the display will be a **SOFT KEY** label 'Start Simulator', press the **SOFT KEY** that corresponds with this option. Choose 'No' to the retail demonstration and press **ENTER/MARK**. Press **ENTER/MARK** again to acknowledge the Running Simulator/Sonar Message.
3. The "Simulator Setup" window will be displayed.

There are seven parameters that can be set for the simulator: "Current Time", "Current Date", "Track Control", "Track", "Speed", "Transducer" and "Set Position" (SOFT KEY). We need to change the "Current Time" and "Current Date" settings.

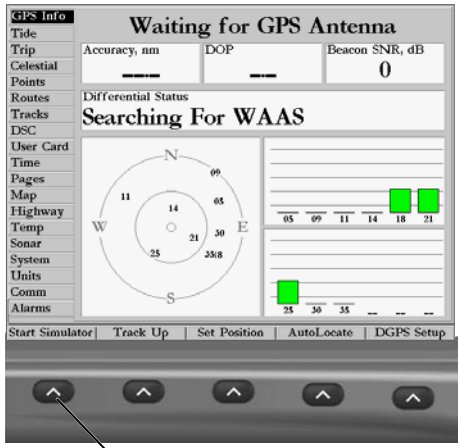
There are two methods that you can use when entering alpha-numeric data, one is the **ARROW KEYPAD** and the other is the **DATA ENTRY** keys. We will use the **ARROW KEYPAD** for setting the Current Time and Current Date. See page 7 for instructions using the **DATA ENTRY** keys.

Current Time:

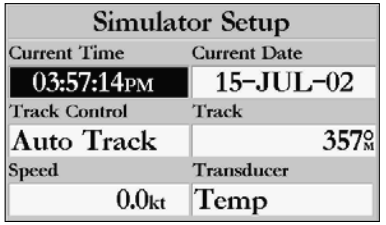
1. Using the **ARROW KEYPAD**, highlight the "Current Time" field and press the **ENTER/MARK** key.
2. Using the Right/Left function of the **ARROW KEYPAD**, place the highlight on the correct digit to begin entering the current time.
3. Using the Up/Down function of the **ARROW KEYPAD**, scroll through the list until the correct number is displayed. Press the **ARROW KEYPAD** to the right to highlight the next digit.
4. Continue this process until the correct "Current Time" is displayed then press the **ENTER/MARK** key to accept the new time.

Current Date:

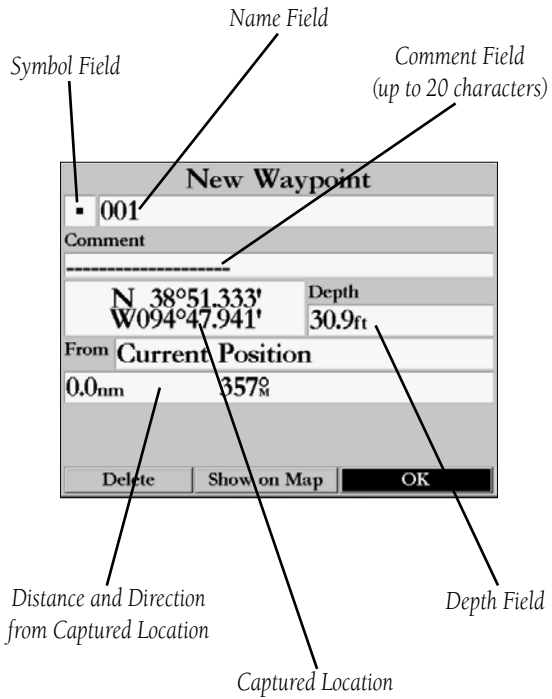
1. Using the **ARROW KEYPAD**, highlight the "Current Date" field and press the **ENTER/MARK** key.
2. Using the Right/Left function of the **ARROW KEYPAD**, place the highlight on the correct digit to begin entering the Current Date.
3. Using the Up/Down function of the **ARROW KEYPAD**, scroll through the list until the correct number is displayed. Press the **ARROW KEYPAD** to the right to highlight the next digit.
4. When the month is highlighted the Up/Down function of the **ARROW KEYPAD** will scroll through a list of the months. Select the current month then move to the next digit.
5. Continue entering the date. When finished, press the **ENTER/MARK** key to accept the new date.



*Select this **SOFT KEY** to start the Simulator*



*After the 'Start Simulator' **SOFT KEY** has been pressed, the "Simulator Setup" window will be displayed. Set the current time and date, and change the "Track Control" to 'User Track'. When finished press the **QUIT** key to begin simulation.*



The Simulator is now set up and ready to use!

Let's review what we have covered so far:

1. The **PAGE** and **QUIT** key will cycle through the Main Pages, the **PAGE** key in a forward direction and the **QUIT** key in reverse.
2. To select a field or option use the Right/Left and Up/Down functions of the **ARROW KEYPAD** to control the cursor or highlight.
3. To activate a field or option, place the highlight over the item and press **ENTER/MARK**.
4. Use the **ARROW KEYPAD** to scroll through alpha-numeric character lists when entering data.

Creating Waypoints

There will be many times that you will need to enter data in the GPSMAP 2006/2010, an example is naming a waypoint. We have already taken a brief look at entering data, but let's practice some more.

Through this exercise we will create a new waypoint, name the waypoint, and assign a symbol to the waypoint. The term "Waypoint" may be new to you. You will find the term "Waypoint" is used frequently when talking about navigation. A "Waypoint" is a position stored in the unit's memory, that can be used for navigation. Waypoints are used for direct navigation or you can use several waypoints to build a route.

Creating, or "Marking" a waypoint in the 2006/2010 is really very easy. The unit has to be turned on and receiving at least three satellite signals or in Simulator Mode to mark a waypoint.

Marking your present position as a Waypoint:

1. Press and hold the **ENTER/MARK** key (more than 1 second) until the 'New Waypoint' window is displayed.

When you hold the **ENTER/MARK** key, the GPSMAP 2006/2010 captures its current location and displays the 'New Waypoint' window. You can see that the unit assigned a square as the default symbol and a number as the default name. The 'OK' button is now highlighted. Pressing the **ENTER/MARK** key will store the new waypoint using the default settings for the symbol and name, but let's change them for practice.

Changing the symbol:

1. Using the **ARROW KEYPAD**, highlight the symbol field, then press the **ENTER/MARK** key. This will display a list showing all of the available symbols.

2. Using the **ARROW KEYPAD**, highlight the 'Information' symbol and then press the **ENTER/MARK** key.

We will enter a new waypoint name using the **DATA ENTRY** keys. Each **DATA ENTRY** key has multiple characters assigned to it. Pressing the key one time will select the first character, twice will select the second character, three times the third character, and four times will select the number assigned to the key. The only **DATA ENTRY** key that does not have four characters is the "+, -, 0" key.

When entering data using the **DATA ENTRY** keys, press the key repeatedly until the correct character is selected, then pause briefly or press the next letter/number from a different key. The unit will automatically move the cursor to the next placeholder.

Changing the name:

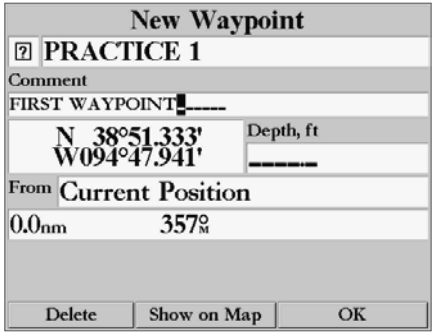
1. Using the **ARROW KEYPAD**, highlight the Name field and then press the **ENTER/MARK** key. This will activate the field with the highlight on the first placeholder.
2. Press the **ARROW KEYPAD** to the left to clear the field.
3. We will name this waypoint "PRACTICE 1", press the **DATA ENTRY** key labeled "P, Q, R, 6" one time to set the letter "P". (If you are entering a letter/number from the same key, pause briefly and the unit will move to the next placeholder automatically. Otherwise, press the next letter/number from a different key.)
4. Press the same key three times to set the letter "R". Continue entering the name until "PRACTICE" is spelled.
5. To move the cursor to the right one space, press the **ARROW KEYPAD** to the right one time.
6. Finish the waypoint name by selecting the number "1".
7. Press the **ENTER/MARK** key to accept the new name.

Directly below the Name field is a Comment Field. You can enter a comment of up to twenty digits about the waypoint in this field. For some more practice, enter "First Waypoint" in the comment field.

Entering a Comment:

1. Highlight the 'Comment' field and press the **ENTER/MARK** key.
2. Using the **ARROW KEYPAD** and **DATA ENTRY** keys, enter "FIRST WAYPOINT".
3. Press the **ENTER/MARK** key to accept the comment.

DATA ENTRY keys



Select the 'Information' symbol, enter the name "Practice 1", and enter the comment "First Waypoint".

*The **SOFT KEYS** are located under the display on the front of the unit. The **SOFT KEYS** are used to change display options and show menus for the Main Page that is currently displayed.*

*Labels showing the function of the **SOFT KEYS** are located along the bottom of the display. To select the function, press the **SOFT KEY** located directly below it.*

Now that you have finished modifying the waypoint you will need to save it to the Waypoint List.

To Save the Waypoint:

1. Using the **ARROW KEYPAD**, highlight the 'OK' button at the bottom of the "New Waypoint" window.
2. Press the **ENTER/MARK** key to save the waypoint.

Data Entry Tips:

1. Remember that you can use both the **ARROW KEYPAD** and **DATA ENTRY** keys to enter data.
2. When using the **ARROW KEYPAD**, if you press and hold the key, the unit will scroll through the alpha-numeric list quickly.
3. When using the **DATA ENTRY** keys, press the key the appropriate number of times for the character that you want to display. The number is always last.

Soft Keys

The **SOFT KEYS** are located along the bottom of the unit under the display. The **SOFT KEYS** are used to perform functions or display menus specific to the page that is displayed. The labels showing the function of each key are along the bottom of the display just above the corresponding **SOFT KEY**. To perform the listed function press the **SOFT KEY**. If the function in the label is "Grayed Out", that function is not currently available.

Press the **PAGE** or **QUIT** key until the Map Page is displayed. To see how the **SOFT KEYS** work we will hide and show the 'Numbers' Fields located along the right side of the screen and display the Map Setup Menu.

To Hide the Numbers:

1. Press the **SOFT KEY** located below 'Full Map' at the bottom of the display.

You should now have a map that covers the entire display from left to right. Now let's redisplay the 'Numbers'.

To Display the Numbers:

1. Press the **SOFT KEY** located below 'Set Up Page', then press the 'Show Data' **SOFT KEY**.

To Display the Map Setup Menu:

1. Press the **SOFT KEY** located below the 'Set Up Map' tag located at the bottom of the display.

The Map Setup Page Menu will be displayed. The Map Setup Page will be discussed in detail in the Reference Section of this manual. Now let's return to the Map Page.

To Return to the Map Page:

1. Press the **QUIT** key.

Remember that **SOFT KEYS** are used to quickly access options or functions for the Main Page that is displayed. The options or functions assigned to a **SOFT KEY** may be different for every page that is displayed.

Basic Navigation

The main use of a GPS is to be able to navigate to a known position. We have already created a waypoint using the **ENTER/MARK** key. Let's create another waypoint using the Map Pointer and then begin navigation to that point.

Press the **PAGE** key until the Map Page is displayed. Press the **IN** key several times until the Map Scale located at the bottom right of the display reads "2 nm". This will "Zoom In" on the map showing a smaller area in more detail.

The **ARROW KEYPAD** controls the Map Pointer. The Map Pointer originates from the current GPS location, represented by the triangle in the middle of the display.

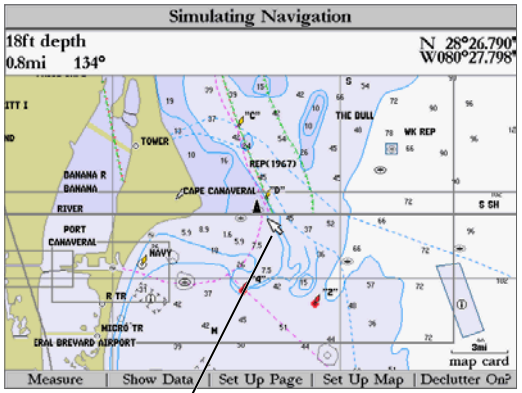
To Display the Map Pointer:

1. Press the **ARROW KEYPAD** in any direction.

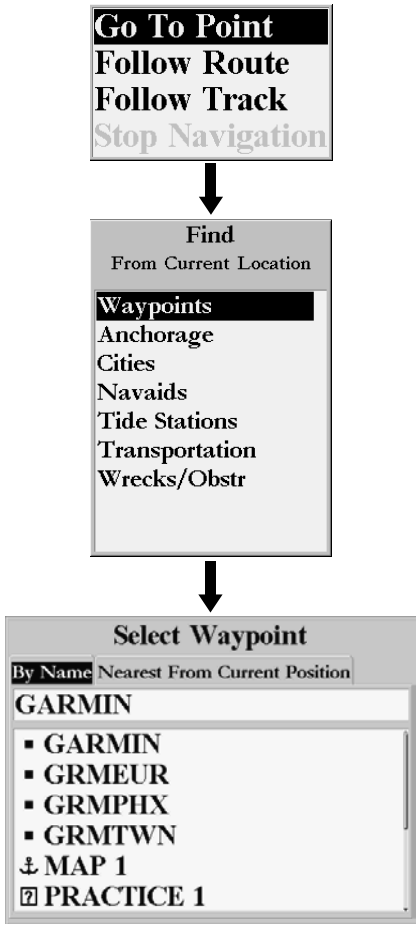
Using the **ARROW KEYPAD** you can move the Map Pointer around the map. As you move the Map Pointer around the map, the direction and distance of the Map Pointer from the current GPS location is displayed in the information bar along the top of the display. Move the Map Pointer until it is approximately two miles from the current GPS location.

To Create a Waypoint Using the Map Pointer:

1. With the Map Pointer at the desired location (not on a road or map feature), quickly press and release the **ENTER/MARK** key. (Holding the ENTER/MARK key for more than one second will mark your present loca-



Map Pointer



tion. See pg. 6) The "New Map Waypoint" Page is displayed.

Change the waypoint name to "MAP 1", and assign the 'Information' symbol. Save the waypoint by highlighting the 'OK' button and pressing the **ENTER/MARK** key. Press the **QUIT** key to hide the Map Pointer and center the display on the current GPS location.

Navigating to a waypoint

When you begin navigation to a waypoint, the GPS sets a straight line course to that point. The unit will draw a Course Line on the display between the current GPS location and the destination waypoint. You may use any of the main pages for navigation. All of these pages are discussed in detail in the Reference section of this manual. For this exercise, let's use the Highway Page.

Going to a waypoint:

1. Press the **NAV** key.
2. Highlight 'Go To Point' and press the **ENTER/MARK** key.
3. Highlight 'Waypoints' and press the **ENTER/MARK** key. This will display the 'Select Waypoint' window. From this window you can select waypoints "By Name", or by "Nearest From Current Position". Select the tab 'By Name' using the **ARROW KEYPAD**.
4. Using the **ARROW KEYPAD**, scroll through the list until the waypoint "Map 1" is highlighted. Press the **ENTER/MARK** key to display the "Waypoint Review" Page.
5. With the 'Go To' button highlighted, press the **ENTER/MARK** key to begin navigation.

For a GPS to navigate it has to be moving. When the Compass Page or Highway Page is displayed and the unit is in the Simulator Mode, you can set a simulated speed by pressing the **ARROW KEYPAD** 'Up'. Each time the **ARROW KEYPAD** is pressed 'Up' the simulated speed will increase by ten knots. Pressing the **ARROW KEYPAD** 'Down', will decrease the simulated speed by the same amount.

Press the **PAGE** key until the Compass Page is displayed. Along the right side of the display there are four data fields, the top field is the Speed. Press the **ARROW KEYPAD** 'Up' one time to set a speed of 10 knots.

Using the Compass Page

Located on the Compass Page are the Bearing Pointer, and a Compass Ring. When you are moving, the

Bearing Pointer points toward your destination, while the Compass Ring reflects the direction that you are traveling. In short, when you are headed directly toward your destination, the Bearing Pointer will point toward the top of the display, aligned with the vertical line displayed in the Compass Ring. If you are not heading toward your destination, the Bearing Pointer will turn, continuing to point toward your destination. To head toward your destination, turn until the Bearing Pointer is realigned with the vertical line in the Compass Ring.

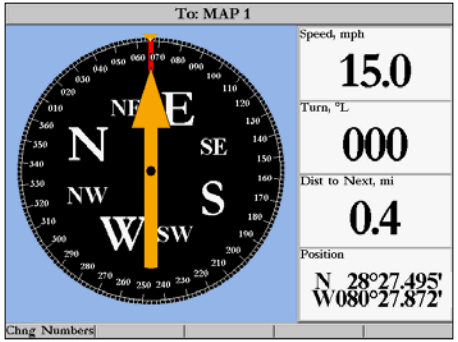
The GPSMAP 2006/2010 will allow you to simulate a turn so you can see what will happen.

To simulate a turn:

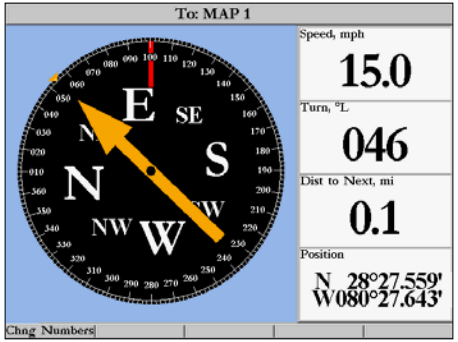
1. Press the **ARROW KEYPAD** to the right until the Compass Ring has changed about 40°.

The Bearing Pointer should now be pointing to the left. This is exactly what will happen during actual navigation. To get back on course, press the **ARROW KEYPAD** to the left, simulating a left turn. When the Bearing Pointer is aligned with the vertical line in the Compass Ring, you are headed directly toward the destination waypoint.

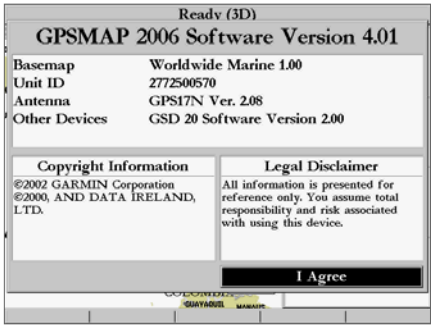
Congratulations you should now have enough experience to use the basic functions of your GPSMAP 2006/2010. Enjoy your new GPSMAP 2006/2010 and thank you for choosing Garmin.



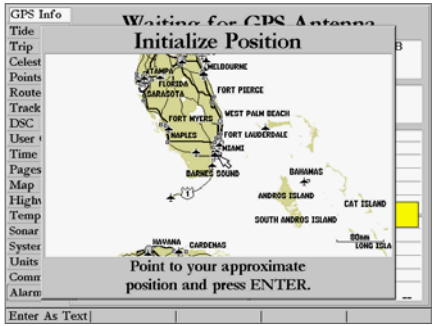
Compass Page — Heading directly toward the destination waypoint. When the Bearing Pointer is aligned with the vertical line in the Compass Ring then you are on a direct course to your destination.



Compass Page — showing off course about 40°. Turn left until the Bearing Pointer is aligned with the vertical line to get back on course.



Warning page



Point to your approximate location and press ENTER/MARK.

Initializing the Receiver

The first time you power up your new GPSMAP 2006/2010 and GPS 17 receiver, the receiver must be given an opportunity to collect satellite data and establish its present position. To ensure proper initialization, the GPS 17 is shipped from the factory in AutoLocate mode, which allows the receiver to "find itself" anywhere in the world. To speed up the initialization process, we recommend using the graphic initialization process, which usually provides a position fix within a few minutes. If you know your approximate coordinates, you may also enter the position as text.

Before you initialize, make sure the GPSMAP 2006/2010 unit and GPS 17 antenna have been correctly installed on your vessel according to the instructions in the 2006/2010 Installation Guide. The antenna needs a clear and unobstructed view of the sky to receive satellite signals.

To turn the GPSMAP 2006/2010 on:

1. Press and hold the **POWER** key until the display comes on, then release the **POWER** key.

A warning page appears, asking you to read and acknowledge important information regarding the proper use of the unit.

To acknowledge the warning:

1. After reading the warning, press the **ENTER/MARK** key if you agree.

Next you will see the GPS Info window which provides a visual reference of satellite acquisition, GPS receiver status, and accuracy. The status information will give you an idea of what the GPS receiver is doing at any given moment.

To graphically initialize the GPSMAP 2006/2010:

1. From the GPS Info window, press the 'Set Position' **SOFT KEY**.
2. The Initialize Position Page will appear, prompting you to select your approximate location with the map cursor. Use the **ARROW KEYPAD** to move the map cursor and point to your approximate location within 200 miles. If you have difficulty identifying your position, press and release the **IN** key to zoom in to view the map at the next lower scale.
3. Once you have determined your approximate location on the map, press the **ENTER/MARK** key.

4. If you wish to enter your approximate location as text, from the Initialize Position Page, press the 'Enter As Text' **SOFT KEY** then use the **DATA ENTRY** keys to enter the coordinates and press **ENTER/MARK** when done.

This does not "calibrate" the unit in any way, but rather helps to speed up the initial satellite acquisition. If the unit displays "Ready (2D) or (3D)" during this process, it is not necessary to initialize the unit.

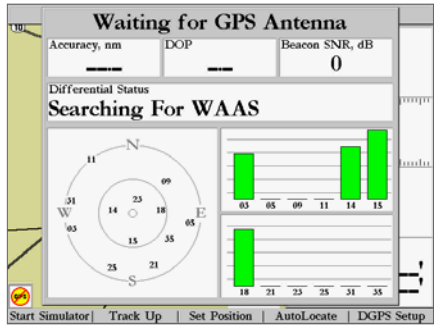
The GPSMAP 2006/2010 will now begin searching for the appropriate satellites for your region and should acquire a fix within a few minutes. When viewing the GPS Info, a signal strength bar for each satellite in view will appear on the bottom of the page, with the appropriate satellite number under each bar. The progress of satellite acquisition is shown in three stages:

- No signal strength bars— the receiver is looking for the satellites indicated.
- Hollow signal strength bars— the receiver has found the indicated satellite(s) and is collecting data.
- Solid signal strength bars (green on color models)— the receiver has collected the necessary data and the satellite(s) are ready for use.

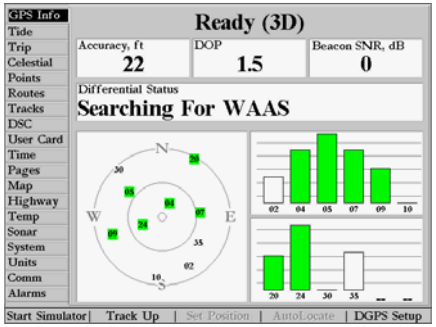
Once the receiver has collected information from at least three satellites, the top of the screen displays either "Ready (2D or 3D)", the GPS Info window automatically disappears and the display switches to the Map Page showing your current position. The GPSMAP 2006/2010 is now ready for use!

The GPS Info may also be accessed from the Main Menu once the unit is ready to navigate. For more detailed information on the GPS Info tab and its related options, see pages 56-59. The GPS Info on power-up window may also be turned off in order to go directly to the first Main Page using the Pages tab options (see pg. 55).

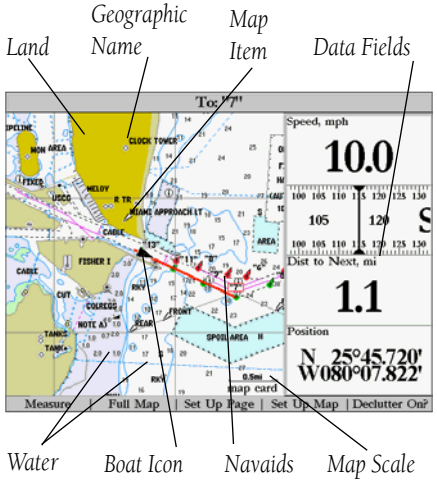
Since the 2006/2010 can receive position information from a non-Garmin NMEA source, it is possible to have a '"Ready (2D) or (3D)" status with no satellite data.



A satellite's strength bars will turn black (or green) when it's ready for use.



The GPS Info screen and additional options may also be accessed from the Main Menu after the unit has acquired satellites.



Map Page shown using optional BlueChart data.

Map Page

The GPSMAP 2006/2010's Map Page provides a comprehensive display of electronic cartography, plotting and navigational data. When using the unit with the optional BlueChart data or MapSource software, the map display shows your boat on a digital chart, complete with geographic names, map items, navaids, and a host of other chart features. Additional information on BlueChart data may be found in the "BlueChart User's Guide". You may also display sonar information (if equipped). It also plots your track and displays any routes and waypoints you create. An on-screen cursor lets you pan and scroll to other map areas, determine the distance and bearing to a position, and perform various route and waypoint functions.

When the cursor is active, an additional data window appears above the map to indicate the position, any identifying text, rang, and bearing to the cursor or a selected waypoint or map item. The map scale displays at the bottom right of the map.

The **IN** and **OUT** keys, combined with the **ARROW KEYPAD**, let you select zoom ranges and move the cursor. Two basic map operating modes, position mode and cursor mode, determine what cartography is shown on the map display. Position mode pans the cartography to keep the present position marker within the display area, while cursor mode pans the cartography to keep the cursor within the display area.

The GPSMAP 2006/2010 system (by default) powers up in the position mode, with your vessel centered on the map display. When sufficient map coverage is not available to keep the boat centered, the boat icon will move toward the edge of the display.

When the **ARROW KEYPAD** is pressed, the GPSMAP 2006/2010 enters cursor mode. In cursor mode:

- The cursor can be moved over the map display using the **ARROW KEYPAD**.
- Whenever the cursor reaches the edge of the display, the map scrolls forward under the cursor. Keep in mind that the boat icon moves with the map scrolling and may go off the display screen (you may not be able to see your present position).
- When the cursor is stationary, a fixed coordinate position will appear in the position field. Note that the distance and bearing changes as the boat's position changes.
- Whenever you zoom in cursor mode, the cursor is centered on screen.
- To return to position mode, press the **QUIT** key.

When the cursor reaches the edge of the map, the unit may pause as it loads new map data.

Using the Cursor

The cursor allows you to pan away from your present position and scroll to other map areas around the world (even outside of your current detail coverage). As you pan past the edge of the current map display, the screen actively scrolls forward to provide continuous map coverage. You will see an hourglass symbol by the pointer while the unit is busy drawing new map detail.

To move the cursor:

1. Press the **ARROW KEYPAD** to move the cursor in an up, down, left, or right direction.

As you move the cursor, the distance and bearing from your present position to the cursor is displayed in the data window, with the cursor's position coordinates. Keep in mind that when the cursor is stationary, the distance and bearing from your present position changes as your boat moves. The cursor may also be used to 'snap' to on-screen waypoints and map items, allowing you to review a selected position directly from the map display.

To select an on-screen waypoint or map item with the cursor:

1. Use the **ARROW KEYPAD** to move the cursor to the desired waypoint or map item (if there are several waypoints grouped closely together, zoom in closer for a better view).
2. When a waypoint or map item is selected, it will become highlighted on screen, with the name and position displayed. Press **ENTER/MARK** to show details of the map item. When using BlueChart or MapSource data, additional information tabs will appear. Use the **ARROW KEYPAD** to highlight the individual tabs to display the information and additional options. Use the **SOFT KEY** options to Scroll Up, Down, Left or Right when necessary.

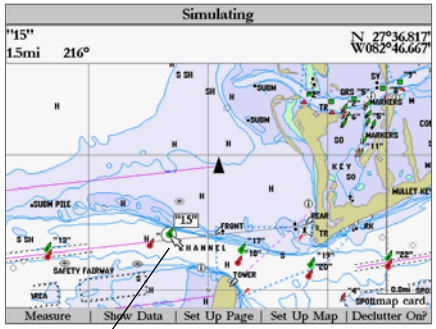
To eliminate the cursor and re-center your position on-screen:

1. Press the **QUIT** key.

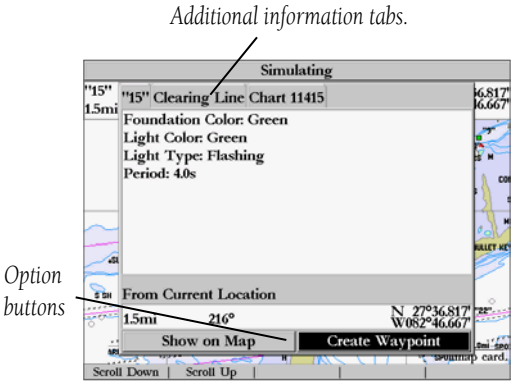
The cursor may also be used to create new waypoints directly from the map.

To create a waypoint with the cursor:

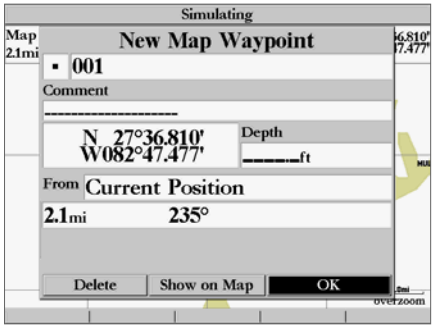
1. Use the **ARROW KEYPAD** to move the cursor to the desired map position. (continued)



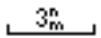
Move the cursor over an item on the map to highlight it.



Pressing ENTER/MARK while highlighting a map item will bring up additional details and options.



Creating New Map Waypoint



Using Built-In Basemap

Using BlueChart/MapSource Data

Overzoom, no additional data

2. Press the **ENTER/MARK** key and the 'New Map Waypoint' window will appear. If the cursor is on a map item, you will get a new window with details about the item when **ENTER/MARK** is pressed. Press **ENTER/MARK** again on the highlighted 'Create Waypoint' option.
3. Highlight 'OK' and press **ENTER/MARK** to confirm the new waypoint using the default three-digit name and symbol. To change any of the available data fields, see page 27.

Selecting Map Scales

The map display has 28 available range scales from 20 ft. to 800 mi. (5 m to 1200 km). The map scale is controlled by the **IN** and **OUT** keys, with the current scale displayed at the bottom right of the data window. The scale value represents the distance from one end of the scale bar to the other.

To select a map scale:

1. Press the **OUT** key to zoom out and the **IN** key to zoom in.

The GPSMAP 2006/2010's system has a built-in worldwide database to 20 mi, with more detailed coverage available through the use of the optional BlueChart or MapSource data. The GPSMAP 2006/2010 will display cartography as long as there is chart information available for the range you've selected. Map coverage will conform to the following conditions:

- When the selected zoom range is covered by either the internal database, BlueChart, or MapSource data, cartography will be displayed.
- When the selected zoom range is covered by both the internal database and BlueChart/MapSource data, cartography will be displayed using the data with the best resolution.
- When the selected zoom range exceeds the resolution of the data in use, overzoom cartography will be displayed and an 'overzoom' warning will appear below the scale field.

Map Page Options

Many features of the GPSMAP 2006/2010 are **SOFT KEY** driven. Each of the main pages have **SOFT KEY** options, allowing you to custom tailor the corresponding page to your preferences and/or select special features that specifically relate to that page. The data window, located at the right of the main pages (except Active Route Page) provides a user-selectable layout of various types of useful data. Each data field may be configured to display any one of several data options. The data window layout may also be changed to display additional data fields and change the actual size of the data displayed.

The GPSMAP 2006/2010's Map Page provides access to functions and features relating to the Map Page and the layout options.

The available **SOFT KEY** options are Measure, Full Map/Show Data, Set Up Page, Set Up Map, and Declutter On/Off. Following are details on using each of these options.

• **Measure —** allows you to measure the bearing and distance between any two points on the map display.

To measure the BRG/DIS between two points:

1. Press the 'Measure Distance' **SOFT KEY**. An on-screen pointer appears on the map display at your present position with 'ENT REF' below it.
2. Move the cursor to the desired reference point (the point that you want to measure from) and press **ENTER/MARK**.
3. Move the cursor to the point that you want to measure to. The bearing and distance from the reference point and cursor coordinates will be displayed in the data window at the top of the display. Press the **QUIT** key to finish.

• **Full Map/Show Data —** toggles between a Map Page without or with data fields on the map display.

To maximize the map/show data fields:

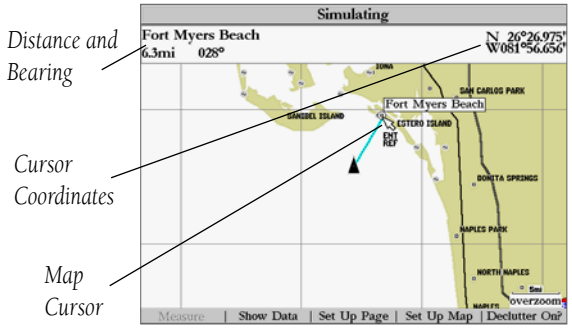
1. Press the 'Full Map' **SOFT KEY**. The Map Page will now be maximized with no data fields.
2. To show the data fields again, press the 'Show Data' **SOFT KEY**.

• **Set Up Page —** allows you to configure the map layout to your preferences, including changing the type of data displayed in the data fields, showing sonar information and sizing a split display.

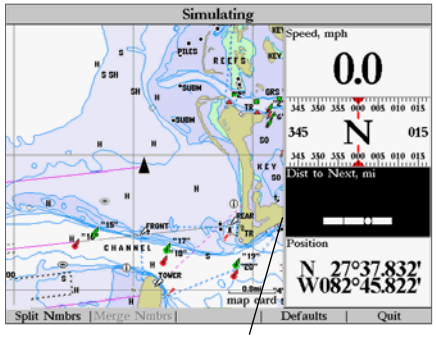
• **Change Nmbrs (Numbers) —** allows you to specify the type of data displayed in each number field used on the map display. This option is available from any of the main pages.

To change a number field:

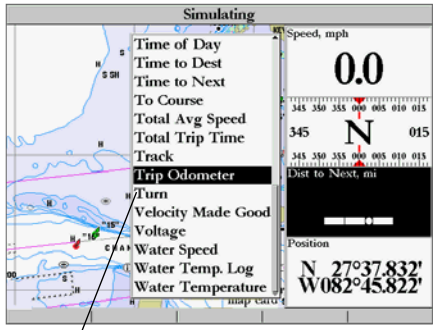
1. Press the 'Change Nmbrs' **SOFT KEY**.
2. Move the field highlight to the data field you want to change and press **ENTER/MARK**.
3. Move up or down on the list using the **ARROW KEYPAD** to highlight the data you want to display, and press **ENTER/MARK**. To exit, press **QUIT** or the 'Quit' **SOFT KEY**.



Full screen map shown



Highlight the field you wish to change.



Choose the type of data you wish to display.

The following data options are available for data fields on the main pages:

- BEARING – Compass direction from your position to destination
- COMPASS – Compass ribbon
- COURSE – Desired Track
- DEPTH – Depth below transducer (if receiving proper sonar data from other device)
- DISTANCE TO DEST – Distance to final waypoint
- DISTANCE TO NEXT – Distance to next waypoint
- ELEVATION – Elevation above/below MSL (Mean Sea Level)
- ETA AT DEST – Estimated Time of Arrival to final waypoint
- ETA AT NEXT – Estimated Time of Arrival to next waypoint
- GPS ACCURACY – Current accuracy of GPS receiver
- HIGHWAY – Smaller version of the Highway Page
- MAX SPEED – Fastest speed the unit has traveled
- MOVING AVG SPEED – Average moving speed
- MOVING TIME – Time unit has been moving for a trip
- OFF COURSE – Distance from desired track
- POINTER – Arrow points to your destination
- POSITION – Current position coordinates
- SONAR* – Compressed view of sonar data
- SPEED – Speed over ground
- TIME OF DAY – Current time
- TIME TO DEST – Time to final waypoint
- TIME TO NEXT – Time to next waypoint
- TO COURSE – Distance to desired track
- TOTAL AVG SPEED – Total average speed
- TOTAL TRIP TIME – Total travel time of trip, stopped and moving
- TRACK – Current compass direction of travel
- TRIP ODOMETER – Trip Odometer
- TURN – Directional amount of turn needed to match bearing
- VELOCITY MADE GOOD – Velocity Made Good to destination
- VOLTAGE – Current voltage reading being received by unit
- WATER SPEED* – Speed through the water
- WATER TEMPERATURE* – Water temperature
- WATER TEMP. LOG* – Timeline graph of the transducer's temperature reading.

* If receiving proper sonar data from other device, such as a GSD 20 Sounder Module)

NOTE: COMPASS, HIGHWAY and POSITION will only be available on medium and large sized data fields.

You may also choose to 'split' the default numbers to 4 smaller fields for more data or you may 'merge' the smaller fields back to their original size. All the Main Pages (except the Numbers and Active Route Pages) will have 4 medium sized fields, which may be split to a total of 16 small fields. The Numbers Page will display 4 large fields, which may be split to a total of 16 medium fields. This option is available from any of the Main Pages, except the Active Route Page.

To Split or Merge the Numbers fields:

1. While in 'Change Nmbrs' mode, highlight the data field you want to change and press the 'Split Number' or 'Merge Numbers' **SOFT KEY**. You will now see four new data fields or one large field. You may also use the **IN** or **OUT** keys to split and merge the fields. Press **QUIT** when done or press the 'Quit' **SOFT KEY**.
2. To return to the factory configuration, press the 'Defaults' **SOFT KEY** while in 'Change Nmbrs mode. Press **QUIT** when done or press the 'Quit' **SOFT KEY**.

• **Hide/Show Nmbrs (Numbers) —** toggles between a Map Page without or with data fields on the map display.

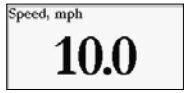
• **Hide/Show Sonar —** toggles between a Map Page without or with sonar information on the map display.

• **Size Split—** enables width adjustment of the Map Page sonar split screen. You may adjust the size of the map/sonar split window anywhere from 1/4 to 3/4 width from the right half of the Map Page. You must be showing sonar information to use this option.

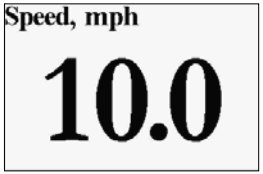
To resize the Map Page sonar split screen:

1. From the Map Page split screen, press the 'Set Up Page' then 'Size Split' **SOFT KEYS**.
2. Move the horizontal double-arrow LEFT or RIGHT using the **ARROW KEYPAD** until the desired vertical width line shows, then press **ENTER/MARK** or the 'Accept Resize' **SOFT KEY**. You may also press the '50/50' **SOFT KEY** to equally proportion the map and sonar windows.
3. If you wish to cancel this operation, press **QUIT** or press **the** 'Cancel Resize' **SOFT KEY**.

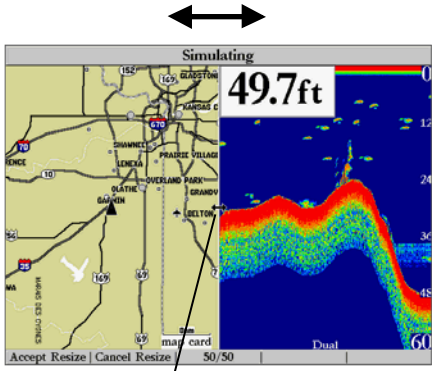
Split, small fields



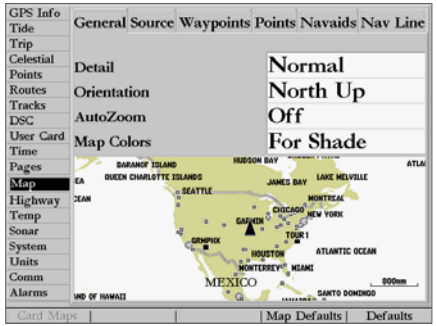
Default, medium fields



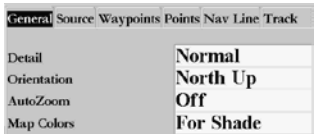
Single, large data field



Move double arrow left or right to size the split screen.



Main Menu—Map Configuration Tab



General Tab

• **Set Up Map—** allows you to configure the map display to your preferences, including map detail, map orientation, automatic zoom, and various map items and points. The map set up option uses a 'file tab' feature, making it easier to organize the various settings for ease of use. The following table lists the file tabs and the settings available under each tab:

General	Detail, Orientation, AutoZoom, Map Colors
Source	Basemap, Data Card Maps
Waypoints	Waypoints, Active Route
Points	Spot Soundings, Tide Stations, Services
Navaids	Symbol Set, Symbol Size, Text Size, Light Sectors
Nav Line	Heading Line, Bearing Line, Course Line
Track	Saved Tracks, Track Log
Other	Accuracy Circle, Lat/Lon Grid, Map Outlines

To change a map setup feature:

1. Press the 'Set Up Map' **SOFT KEY**.
2. Move LEFT or RIGHT on the **ARROW KEYPAD** to highlight the desired tab, then UP or DOWN on the **ARROW KEYPAD** to highlight the setting you want to change and press **ENTER/MARK**.
3. Move UP or DOWN on the **ARROW KEYPAD** to highlight to the desired setting and press **ENTER/MARK**. To exit, press **QUIT**.

General Tab

Detail— Most, More, Normal, Less, Least: controls how much map detail you will see. This setting only applies to any map feature set to "Auto". Those features which have a specified scale or turned "Off" are unaffected by this setting.

Orientation— North Up— fixes the top of the map display to a north heading; Track Up— fixes the top of the map display to the current track heading; Course Up— fixes the map so the direction of navigation is always "up" and turns the navigation leg line vertical on the screen.

AutoZoom— On/Off: when "On" the map will automatically adjust the map scale to a lower scale as you approach you destination point.

Map Colors— Water /Land Mode or For Shade/Sunlight (color models only): when in "Water Mode", land will appear as a darker color and water will be lighter. In "Land Mode", land will appear as a lighter color and water will be darker. If using optional BlueChart data, it is recommended to use 'Water Mode'. For color models, "For Shade" is designed to match the color of physical marine charts as closely as pos-

sible. Use this setting when in shaded environments. "For Sunlight" displays more vibrant colors for use in sunny environments. BlueChart data may be used with either color model mode.

Source Tab

Basemap— On/Off: turns the built in base map on or off.

Data Card Maps— On/Off: turns all optional BlueChart/MapSource data loaded on the data card on or off.

Waypoints Tab— Waypoints/Active Route

Text— None, Small, Medium, and Large: controls the screen size of the name.

Zoom— Auto, Off, 120 ft.-800 mi.: sets the maximum scale at which the feature should appear on the screen. Some types of data will only show up to certain zoom scales.

Points Tab— Spot Soundings/Tide Stations/ Services

Text— None (except Spot Soundings), Small, Medium, and Large: controls the screen size of the name.

Zoom— Auto, Off, 120 ft.-800 mi.: sets the maximum scale at which the feature should appear on the screen. Some types of data will only show up to certain zoom scales. (Spot Soundings On/Off only)

Navaids Tab— Spot Soundings/Tide Stations/ Services

Symbol Set— Auto, Garmin, NOAA, International: controls the desired navaid symbol set.

Auto - BlueChart maps are drawn using symbols similar to the NOAA/NIMA standard.
Non BlueChart maps are drawn using traditional Garmin symbols.

Garmin - All maps are drawn using traditional Garmin symbols.

NOAA - All maps are drawn using a symbol set similar to NOAA/NIMA.

International - All maps are drawn using a symbol set similar to the IALA symbol set.

Symbol Size— Small, Medium, and Large: controls the screen size of the navaid symbols.

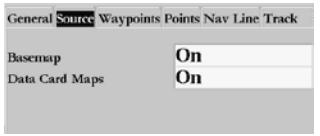
Text Size— Small, Medium, and Large: controls the screen size of the name.

Light Sectors— Off, Auto, On: controls the drawing light sectors on the map. Color units indicate the actual color of each sector using the color of the light. Monochrome units draw white and yellow sectors as white, and draw blue, red & green sectors as dark gray.

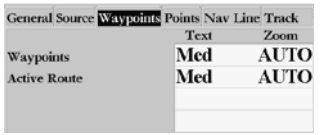
Off— No light sectors are ever drawn

Auto— Light sectors appear when you point to them with the map cursor.

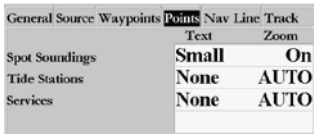
On— Light sectors are drawn for all lights that have them.



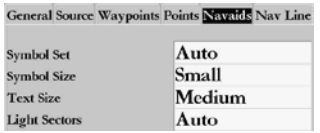
Source Tab



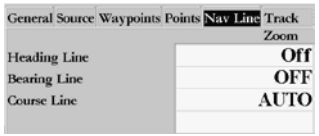
Waypoints Tab



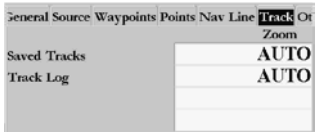
Points Tab



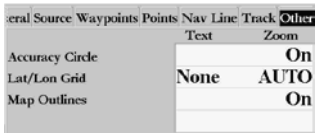
Navaids Tab



Nav Line Tab



Track Tab



Other Tab

Nav Line Tab—

Heading Line— On/Off: draws an extension from the end of the boat icon in the direction of travel.

Bearing Line— On/Off: toggles the black/white line which points to the current navigation point.

Course Line— Auto, Off, 120 ft.-800 mi.: sets the maximum zoom scale at which the desired course line should appear on the screen.

Track Tab— Saved Tracks/Track Log

Zoom— Auto, Off, 120 ft.-800 mi.: sets the maximum scale at which the feature should appear on the screen. Some types of data will only show up to certain zoom scales.

Other Tab—

Accuracy Circle— On/Off: toggles the circle "On" and "Off". The circle represents the approximate accuracy of the unit based on EPE, DOP, and basemap quality. Your position will be within the circle.

Lat/Lon Grid— Text— None, Small, Medium, and Large: controls the screen size of the name. Zoom— Auto, Off, 120 ft.-800 mi.: sets the maximum scale at which the feature should appear on the screen.

Map Outlines— On/Off: toggles the coverage boxes for BlueChart/MapSource data "On" and "Off".

Map Setup Soft Key Options

From the map setup page, you can access the following menu options:

- Card Maps— shows a list of the optional BlueChart/MapSource data loaded on the data card. Each area is described by name and may be deselected if you do not wish to display the data on the Map Page.
- Map Defaults— restores settings back to factory settings for all tabs.
- Defaults— restores settings back to factory settings for only the highlighted tab.

To display the Card Map Information Page:

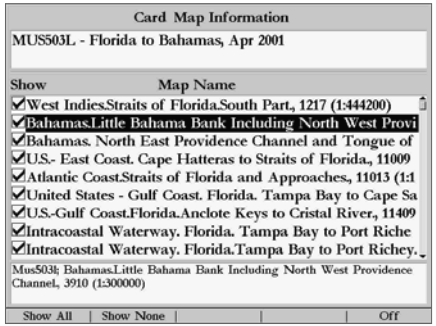
1. Press the 'Card Maps' **SOFT KEY**.
2. Use the **ARROW KEYPAD** to scroll through the list of maps.
3. To select/deselect a map, highlight the check box to the left of the name of the desired map. Press **ENTER/MARK** or the On/Off **SOFT KEY** to select/deselect the map. The map is selected and is displayed on the Map Page when a "✓" appears in the box adjacent to that map. You may also choose to 'Show All' or 'Show None' by pressing the corresponding **SOFT KEY**. (cont.)

4. To display detailed information and notes for each area, highlight the desired name and press **ENTER/MARK**. To view the notes for that area, choose 'Show Notes'. To scroll through the notes, you may either, highlight the notes, press **ENTER/MARK** and use the **ARROW KEYPAD** to scroll, up, down, left, and right or press the desired **SOFT KEY** scroll option. Press **QUIT** to exit.

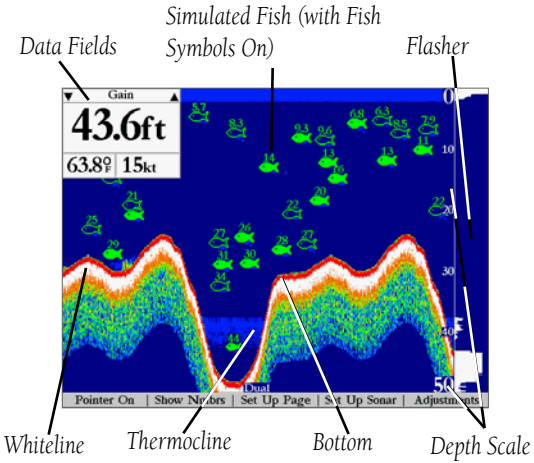
To restore defaults for map settings:

1. From the Map tab in the Main Menu, highlight the tab you want to restore settings to and press the 'Defaults' (or 'Map Defaults' if you want all tabs restored) **SOFT KEY**.

• **Declutter On/Off? —** toggles between showing/not showing spot sounds and map outlines for easier viewing. These settings are automatically changed in the Map Setup. Press the 'Declutter On/Off?' **SOFT KEY** to toggle this feature.



Card Map Information Page



Sonar Page

The Sonar Page is where your GPSMAP 2006/2010 becomes a powerful fishfinder. The top left of the screen contains information fields, while the Adjustments selection (see pg. 29) above the fields allows direct access to the settings most commonly changed while using the Sonar Page. The middle of the page contains a right-to-left moving sonar image of the water beneath your boat. (Note: Items appear as they pass under your transducer. Those items on the right side of the screen are closer to you than those on the left.) Along the right side of the screen is an adjustable scale which reflects the depth of the area being displayed. You may also show a sonar flasher and color bar on the right side (see pg. 27). If the unit does not detect a sonar device (GSD 20) attached to the unit, a "Sonar Turned Off" message will appear.

The sonar display may also be set to show a split screen view of a zoomed portion of the sonar, bottom lock (display scaled from the bottom up), or a combination of these options (see pg. 26). For example, you may choose to show dual frequency at a 2X zoom (Dual 2X) on one half and normal range dual frequency (Dual) returns on the other half. The current display mode will be displayed at the bottom of each sonar display.

On color models, sonar returns will show as red (strongest), then oranges (strong), yellows (medium), greens (weaker) and blues (weakest). On grayscale models, stronger returns will appear darker and weaker returns lighter. The 'Fish Symbols' option (see page 26) allows you to view the actual sonar data, a fish symbol or a combination of both. 'Fish Symbols' will appear as green. When the unit is set to 'Dual' (see page 27), the appearance of the fish symbols (and simulated fish returns) will change. Fish symbols from the narrower beam (200kHz) will be solid (or narrow returns), but the returns from the wider beam (50kHz) will be hollow (or wide returns). Simulated fish icons are displayed in three different sizes. Actual fish returns may not always appear as perfect arches, due to the speed, fish orientation, and/or other conditions.

More on understanding the sonar may be found on pages 88-91.

Sonar Page Options

The GPSMAP 2006/2010's Sonar Page features **SOFT KEYS** that provide access to additional functions, set up and layout/data field options.

To select a SOFT KEY option:

1. Press the **SOFT KEY** below the desired option.

The following options are available:

• **Pointer On/Off—** allows you to reference sonar items and mark underwater waypoints. This makes it easier to find and use an object such as a stump for a future fishing location. When using this feature, the Sonar Page pauses. The pointer does not move off the paused display and cannot show an area that has scrolled off the screen. The depth continues to update while the display is paused, but the unit does not show any new sonar data until the standard Sonar Page is resumed. You may see a discontinuity from where the sonar information stops to where it starts again.

To mark an underwater waypoint:

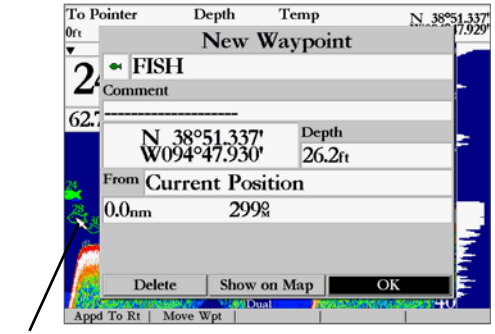
1. From the Sonar Page, press the 'Pointer On' **SOFT KEY** to pause the screen movement.
2. Use the **ARROW KEYPAD** to move the cursor onto the target (underwater drop off, stump, etc.) you want to mark. A data field will appear with the cursor's depth, coordinates, and bearing and distance from your current position.
3. Press **ENTER/MARK**. The New Waypoint page will appear with the waypoint's coordinates, default three-digit name, and pointer depth automatically filled in.
4. To change the name, symbol or depth, highlight the appropriate field and press **ENTER/MARK**. Make your changes and press **ENTER/MARK** when done.
5. When done, move the field highlight back to the 'OK' prompt and press **ENTER/MARK**.
6. To return to the standard Sonar Page, press **QUIT** or press the 'Pointer Off' **SOFT KEY**.

• **Show/Hide Nmbrs (Numbers)—** toggles showing/hiding the data fields on the sonar display.

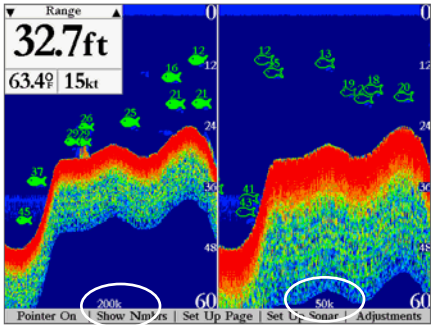
• **Set Up Page—** allows you to adjust the Sonar Page layout to your preferences, including changing data field numbers, showing/hiding data fields, showing/hiding a sonar display and sizing the sonar split. Press the 'Back' **SOFT KEY** to return to the Sonar Page. The Set Up Page options are:

• **Change Nmbrs (Numbers)—**allows you to specify the type of data displayed in each data field. For detailed instructions on changing the data fields on the Sonar Page, see pages 17-19.

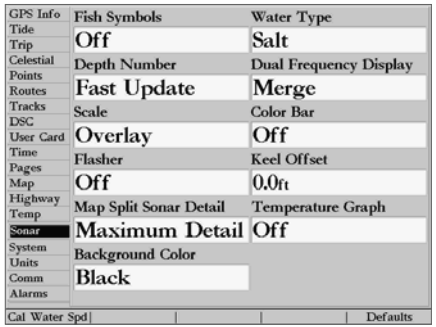
• **Swap Freq (Frequencies)—** when 'Dual Frequency Display' is set to 'Split' in the Sonar Setup, this option toggles showing 200 and 50kHz data in either the left or right split screen. The left split window will always be the one used for the Map Page sonar split and data windows showing sonar information.



Marking an underwater waypoint



Swap Frequencies. You may only use this option when 'Dual Frequency Display' is set to 'Split' in the Sonar Setup.



'Set Up Sonar' Main Menu Tab

Off *Fish Symbols Off— All available information will be displayed.*

Suspended targets will display as fish symbols. Actual sonar information will also be displayed.

Same as above with the target depth attached.

Suspended targets display as fish symbols. No actual sonar information will be displayed.

Same as above with target depth attached.

• **Size Split—** enables width adjustment of the Sonar Page split screen. This option is only available when a zoom scale other than 'No Zoom' is selected or 'Dual Frequency Display' is set to 'Split' in the Sonar Setup. You may adjust the size of the split window anywhere from 1/4 to 3/4 width from the right half of the Sonar Page.

To resize the Sonar Page split screen:

1. From the Sonar Page split screen, press the 'Set Up Page' **SOFT KEY**.
2. Press the 'Size Split' **SOFT KEY**.
3. Move the horizontal double-arrow LEFT or RIGHT using the **ARROW KEYPAD** until the desired vertical width line shows, then press **ENTER/MARK** or press the 'Accept Resize' **SOFT KEY**. You may also press the '50/50' **SOFT KEY** to equally proportion the sonar windows.
4. If you wish to cancel this operation, press **QUIT** or press the 'Cancel Resize' **SOFT KEY**.

• **Defaults—** restores factory settings to the Set Up Page options only.

• **Set Up Sonar—** contains the unit settings that should not require frequent change. The Sonar setup menu contains settings for Fish Symbols, Water Type, Depth Number, Dual Frequency Display, Scale, Color Bar, Flasher, Keel Offset, Map Split Sonar Detail, Temperature Graph, Background Color and Calibration of Water Speed (only if equipped with speed transducer).

To enter the Sonar setup menu, press the 'Set Up Sonar' **SOFT KEY**. You may also press **MENU** once from any screen, then highlight the 'Sonar' tab using the **ARROW KEYPAD**. Press the RIGHT arrow to access the selection fields. Each time the Set Up Menu is accessed, the unit will return to the last edited selection field.

To change a setting on the Sonar tab:

1. Using the **ARROW KEYPAD**, highlight the desired field and press **ENTER/MARK** and the available options will appear.
2. Highlight the desired setting and press **ENTER/MARK**.
3. Press **QUIT** to return to the Sonar Page or previous page.

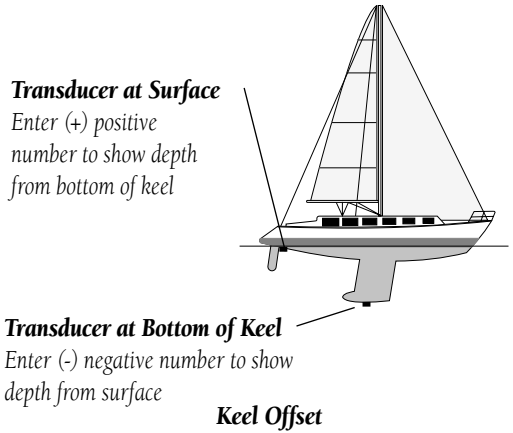
The available Sonar tab options are:

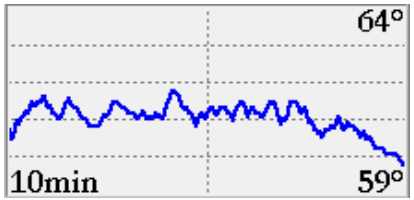
• **Fish Symbols—** allows you to determine how the graph will display underwater targets and background information. If Fish Symbols are set to 'Off', the unit will display all of the available sonar information about the underwater environment. If a fish symbol is selected, the graph will display only the information related to that symbol. Actual fish returns may not always appear as perfect arches (like in simulator mode), due to the speed, fish orientation and/ or other conditions.

- **Water Type—** since sound waves travel through 'Fresh' and 'Salt' water at different rates, it is necessary to select the 'Water Type' to ensure accurate readings on the unit.
- **Depth Number—** controls the efficiency of the digital depth update rate.' Fast Update' will update quicker and is recommended for low-noise, deeper water (>50 ft.). 'Auto' is best for shallow water or high noise areas, will have a slower screen update and is best used if you travel a wide variety of depths.

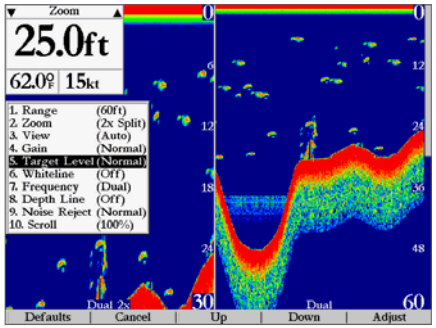
If the unit is unable to track the bottom for any reason, the digits in the depth window will flash on and off to alert you that the unit is not tracking the bottom.

- **Dual Frequency Display—** allows you to show 200kHz and 50kHz data either together or split on the display. Choose 'Merge' to show both and 'Split' to separate the 200/50kHz data. Dual frequency mode combines both frequencies to get the best coverage area and contour/depth readings. When the unit is set to 'Dual' and the Dual Frequency Display is set to 'Merge', the appearance of the fish symbols (and simulated arches) will change. Fish returns from the center of the beam (200kHz) will be solid (or narrow arches), but the returns from the edges of the beam (50kHz) will be hollow (or wide arches).
- **Scale—** controls the depth 'Scale' displayed vertically along the right side of the chart. The depth 'Scale' can be configured to display four different ways: as an 'Overlay', in the 'Corners', with 'Basic' or 'No Scale'.
- **Color Bar—** shows a gradient scale of the current Target Level setting (see page 30).
- **Flasher—** with the 'Flasher' active, a graphic Flasher representation will be displayed on the far right side of the chart. This graphic Flasher displays structure and bottom returns much the same as a true Flasher. You may find this feature particularly useful when using 'Fish Symbols'.
- **Keel Offset—** allows you to offset the surface reading for the depth of a keel. This makes it possible to measure depth from the bottom of your keel instead of from the transducer's location. Enter a positive number to offset for a keel. It is also possible to enter a negative number to compensate for a large vessel that may draw several feet of water. The 'Keel Offset' will be reflected in the depth reading.
- **Map Split Sonar Detail—** controls Map Page sonar split range scale. 'Full Range' will show the entire scale of 2X or 4X right side split of the Sonar Page on the Map Page and data fields.
'Maximum Detail' will display what is shown on the left side of a split Sonar Page on the Map Page and data fields.





You may display a Temp Log in a data field to show a plot of the transducer temperature reading over a specified period of time.



Sonar Page with Adjustment Menu

Calibrating the Speed Sensor. An error message will appear if the boat is not moving or if there is a problem with the speed sensor.

- **Temperature Graph —** toggles On or Off the display of a temperature graph on the Sonar Page (if equipped with GSD 20 Sonar Module).
- **Background Color (Color Models Only)—** allows you to change the background color of the sonar display and map/sonar split. Choices are Black, Blue, or White.
- **Calibrate Water Speed (Soft Key)— *this is only available if you are using a speed-capable transducer/sensor.*** Calibration is required to ensure that the Water Speed displayed on your unit will be accurate. The unit will automatically use the GPS ground speed, if it is available, for comparison on the calibration. If a GPS ground speed is not available, use either your boat's speedometer reading (not always accurate) or a stopwatch to determine your speed over a certain distance (distance / time = speed). It is recommended that the calibration take place in water having little or no current.

To calibrate the water speed:

1. From the 'Sonar' tab, press the 'Cal Water Spd' **SOFT KEY**.
2. Bring the boat to a cruising speed. Both the top ground and uncalibrated water speeds will be shown at the bottom of the calibration window. Note your top speed, then stop the boat and press **ENTER/MARK**.
3. By default, the top ground speed will automatically show in the 'What was your top water speed?' field. If a ground speed is not available, the top uncalibrated water speed will be used instead. If the new speed is correct, highlight 'OK' and press **ENTER/MARK**. If you wish to manually enter a calibration, press **ENTER/MARK** on the speed field, enter a new speed and press **ENTER/MARK**.
4. You may also press the **SOFT KEY** labeled 'Use GPS Spd' to default back to ground speed or 'Use No Cal' to use the speed sensor's uncalibrated speed.

- **Defaults—** restores Sonar Tab only settings to original factory setup.

Using the Adjustment Menu

The Adjustment Menu allows direct access to the settings and features most commonly used on the Sonar Page. There are 10 main adjustment options available: Range, Zoom, View, Gain, Target Level, Whiteline, Frequency, Depth Line, Noise Reject and Scroll. All adjustments may be made by using either the **SOFT KEYS, ARROW KEYPAD** or **DATA ENTRY KEYS**. The **SOFT KEYS** allow for easy to use operations while the **ARROW KEYPAD** and **DATA ENTRY KEYS** are handy shortcuts, once you become familiar with the unit's operation. The currently selected option will appear in the upper left of the display

with and up and down arrow on each side of the name. There are 3 ways to access an adjustment option from the Sonar Page:

• Press the 'Adjustments' **SOFT KEY**, to bring up a list of all options and their current settings. Use the **ARROW KEYPAD** to highlight an option and press **ENTER/MARK** or press the corresponding number on the **DATA ENTRY KEYS**.

• Shortcut by pressing LEFT or RIGHT on the **ARROW KEYPAD** to scroll through the options in the upper left of the display, then press UP or DOWN or the **ENTER/MARK** key to make changes.

• Shortcut if you already know the number of the option you wish to adjust, press the corresponding number on the **DATA ENTRY KEYS**.

Once you have selected an adjustment to change, additional **SOFT KEY** options appear at the bottom of the display. Most adjustments may be made by pressing UP or DOWN on the **ARROW KEYPAD** or by using the Up, Down or other specific **SOFT KEY** options. To easily exit any of the adjustment options, press the **QUIT** key or the 'OK' **SOFT KEY**.

To change an Adjustment Menu setting:

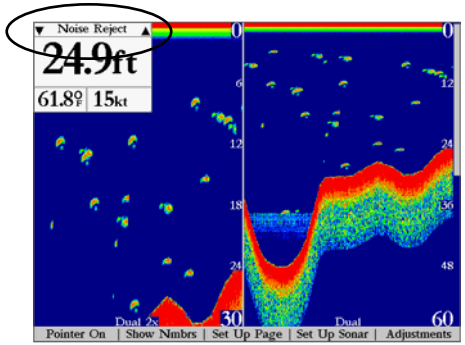
1. Select an adjustment option to change using one of the three methods described above. The adjustment window will automatically timeout and disappear when idle for 20 seconds.
2. With the **ARROW KEYPAD** or **SOFT KEYS**, move UP or DOWN and place the pointer or setting bar at the desired percentage (Off, 1-100%) setting or range. Use the 'Normal' **SOFT KEY** to return the setting back to the default position.

Adjustment Options

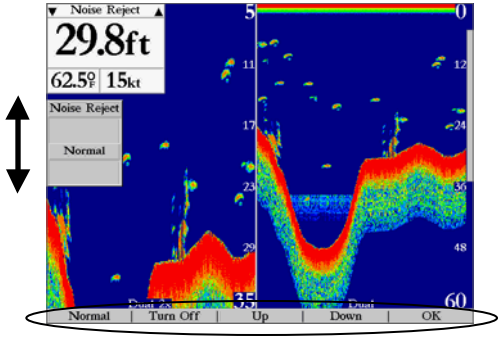
The Adjustment Menu allows direct access to the settings and features most commonly used on the Sonar Page. These available adjustments are:

1. Range— sets the display depth range used for viewing. The unit can be set to automatically track the bottom or set to a user-specified depth range.

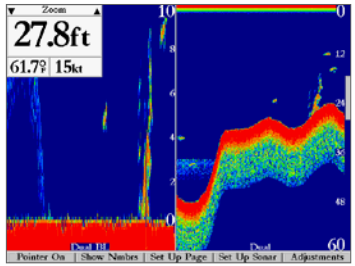
2. Zoom— used to quickly select a display zoom scale or to split the display (Dual Frequency can also split the display when set to 'Split'.) When a scale other than 'No Zoom' is selected, the Adjustment Menu will display a new selection labeled View. The Zoom function is divided into six display levels:



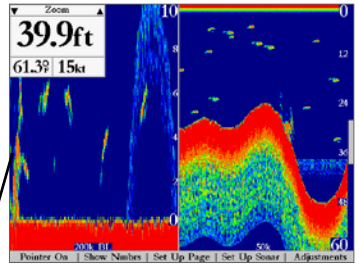
Current Adjustment selection will always appear in the upper left corner. You may press LEFT or RIGHT on the ARROW KEYPAD to scroll through the selections.



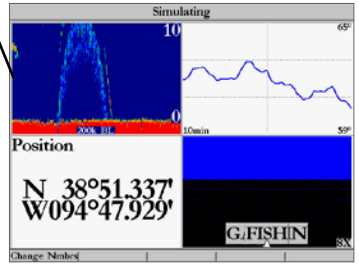
Press UP or DOWN on the ARROW KEYPAD to adjust a selection. You may also use the SOFT KEY options.



Sonar Page with Dual and Split Frequency and Bottom Lock.



Only information on the left side of the sonar split will be used for data fields and Map Page splits when the unit is set to 'Maximun Detail'.



- 2X Split—Shows two reduced-size sonar pictures at the same time. The right half of the display screen shows the complete sonar picture at its original scale. The left half shows a portion of the original picture at 1/2 depth scale.
- 2X Zoom—Displays the 2X zoomed picture on the full GPSMAP 2006/2010 screen and does not show the original scale picture unless 'Dual Frequency Display' is set to 'Split', then a 50/200kHz split screen will show.
- 4X Split—Shows two reduced pictures, the right at the original depth scale and the left at 1/4 the original depth scale.
- 4X Zoom—Displays only the 4X zoomed picture on the full GPSMAP 2006/2010 screen, unless 'Dual Frequency Display' is set to 'Split', then a 50/200kHz split screen will show.
- Btm (Bottom) Split—Shows two reduced pictures, the right at the original depth scale and the left showing sonar returns from the bottom up. All target depths will read as a distance from the bottom in the left window.
- Btm (Bottom) Lock—Displays only the Bottom Lock (returns from the bottom up) picture on the full GPSMAP 2006/2010 screen, unless 'Dual Frequency Display' is set to 'Split', then a 50/200kHz split screen will show.

Once activated, the zoomed picture becomes the Sonar Page display. Note: The Zoom function can be deactivated by pressing the **OUT** key until the 'No Zoom' setting appears.

3. View/Span— available when a Zoom scale other than 'No Zoom' is selected. The 'View' or 'Span' setting is used to change the viewing range of a zoomed display. If the display is 2X or 4X split, only the zoomed portion on the left side of the display will be affected by the change. If the display is Bottom Split or Bottom Lock, 'Span' will adjust how far off the bottom the unit will display data.

4. Gain— allows you to control the sensitivity of the unit's receiver. This provides some flexibility in what is seen on the display. To see more detail, increase the receiver sensitivity by selecting a higher gain percentage. If there is too much detail or if the screen is cluttered, lowering the sensitivity may increase the clarity of the display.

5. Target Level— adjusts how dark/light a return (or target) is displayed on the screen. A Color Bar (see also page 27) will appear on the right side of the screen as you adjust this setting. The higher the percentage, the darker the return will appear. This setting does not increase/decrease the unit Gain.

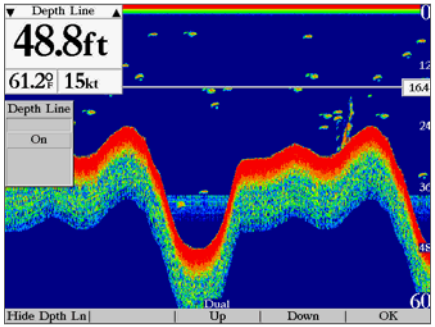
6. Whiteline— controls how the unit displays information about the bottom type (hard or soft). With the Whiteline 'Off', the bottom return will display as black (red). With Whiteline set at 'Normal' or 1-100%, this option can be used to determine bottom hardness. See page 85 for more detail on this feature.

7. Frequency— allows you to choose a transducer frequency. Frequency refers to the "pitch" of the sound that the transducer sends and receives. You may choose '200kHz', '50kHz' or 'Dual' frequency.

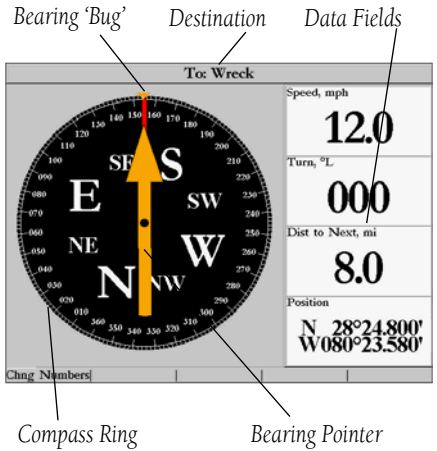
8. Depth Line— adds a horizontal depth line across the display which is used to measure the depth of underwater objects. The depth of the line will appear in a box on the right side of the line. Press UP or DOWN on the **ARROW KEYPAD** to control the position of the line on the chart. The depth is displayed in a window on the right side of the line.

9. Noise Reject— helps filter unwanted noise from the chart. The 'Noise Reject' tool can be turned 'Off', set to 'Normal' (automatically adjusts for optimum viewing) or to a fixed 1-100% setting. When setting the Noise Reject tool, the unit is more likely to NOT show fish or structure with a higher noise rejection setting.

10. Scroll— adjusts the rate that the graph scrolls from right to left. If you are sitting still or the graph is moving too fast, slowing or pausing the scroll rate can be beneficial.



Sonar Page with Depth Line showing.



Compass Page

Whenever a Go To, Follow Track (TracBack), or Follow Route has been activated, the GPSMAP 2006/2010's Compass Page guides you to your destination with digital readouts and a graphic compass display, which includes a bearing pointer. Use this page when travelling at slower speeds, when making frequent directional changes, or where straight-line navigation is not possible due to obstructions or terrain. The left side of the page features a rotating 'compass ring' that shows your course over ground (track) while you're moving. Your present course over ground is indicated at the top of the compass ring. A bearing pointer arrow, in the middle of the compass ring, and a bearing 'bug' indicator on the outside of the compass ring, indicate the direction of the destination (bearing) relative to the course over ground. The compass ring and pointer arrow work independently to show—at a glance—the direction of your movement and the direction to your destination. For instance, if the arrow points up, you are going directly to the waypoint. If the arrow points any direction other than up, turn toward the arrow and bug indicator until it points up, then continue in that direction.

The bearing pointer, bearing bug, and/or compass ring may point in various directions when you are stationary or at very low speeds. Once you start moving, the pointer will be correct.

The GPSMAP 2006/2010's Compass Page features a **SOFT KEY** option that provides access to layout and data field options. The data window, located on the right side of the page, provides a user-selectable layout of various types of useful data. Each data field may be configured to display one of several data options. The data window layout may also be changed to display more/less number fields and change the actual size of the numbers displayed.

To change the number fields:

1. Press the 'Change Nmbrs' **SOFT KEY**, then highlight the desired field and press **ENTER/MARK** or choose from one of the **SOFT KEY** options. For detailed instructions on changing the data fields and layout of the Compass Page, see pages 17-19.

Numbers Page

The Numbers Page provides a quick reference for the important data you want to display. The default page will display four large, user-selectable data fields showing a compass ribbon, speed, current position coordinates, and a smaller version of the Highway Page. You may also choose to show the four data fields in large lettering for better readability or you may 'split' any or all of the data fields to show 4 medium sized data fields. It is not possible to split the medium sized cells into small data fields (on the Numbers Page only). For detailed instructions on changing the data fields and layout of the Numbers Page, see pages 17-19.

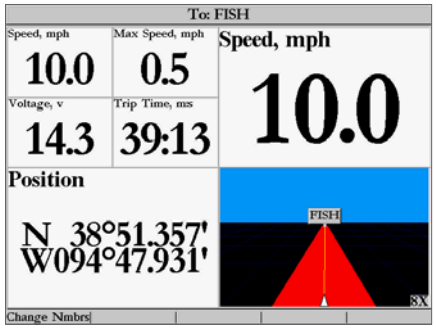
Highway Page

Whenever a Go To, TracBack, or Route has been activated, the GPSMAP 2006/2010's Highway Page will provide digital and graphic steering guidance to the destination. The right side of the Highway Page features user-selectable data fields that display useful navigation data. Additionally, a compass ribbon is displayed, across the top of the page, to show your current heading along with a dark, vertical bar (Orange on color models) that indicates the bearing to your course. When the dark, vertical indicator lines up with the lighter gray (or red) bar in the middle, you are heading directly towards the current navigation point. You can tell if you are off your desired track line by viewing the bottom section of the screen which provides visual guidance to the waypoint on a graphic highway display. The line down the center of the highway represents your desired track line.

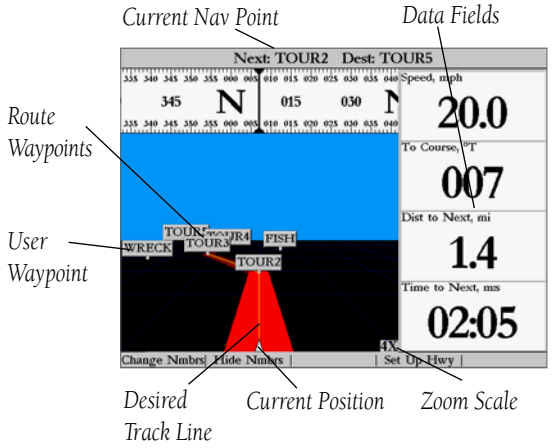
As you head toward your destination, the highway perspective moves to indicate your progress to the waypoint and which direction you should steer to stay on course. If you are navigating a route, the Highway Page shows each route waypoint in sequence connected by a "road" with a line down the middle, which is your desired track line. Nearby waypoints not in the active route can also be displayed. The highway perspective scale may also be zoomed in or out to display a larger or smaller view of the highway. Five settings are available from 1X to 16X, with a default setting of 8X.

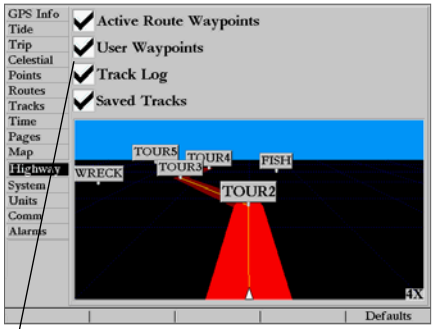
To change the highway perspective scale:

1. Press the **IN** or **OUT** key to select the desired setting.

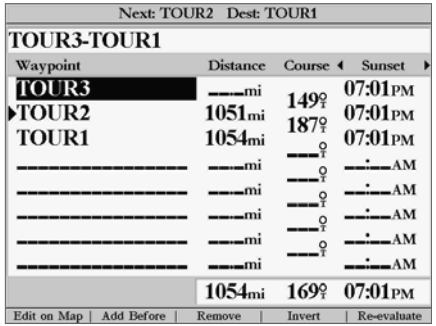


Numbers Page shown with upper left data field split into four medium fields





Check or uncheck the options you wish to show/not show on the Highway Page.



Active Route Page

The GPSMAP 2006/2010's Highway Page features **SOFT KEY** options that provide access to functions and features relating to the Highway Page and the layout options. Options allow you to define the data fields to display several data options and select which waypoints and tracks are displayed on screen. Press the corresponding **SOFT KEY** to activate the desired option.

- **Change Nmbrs—** allows you to specify the type of data displayed in each data field used on the Highway Page and to display additional data fields. For detailed instructions on changing the data fields and layout of the Highway page, see pages 17-19.

If you change a data field to 'Highway', you can change the Highway scale for the Highway data field by pressing the IN or OUT key while the cell is highlighted in "Change Nmbrs" mode.

- **Hide/Show Nmbrs—** toggles between a Highway Page without or with data fields on the display.

To maximize the Highway Page/show data fields:

1. Press the 'Hide Nmbrs' **SOFT KEY**. The Highway Page will now be maximized with no data fields.
2. To show the data fields again, press the 'Show Nmbrs' **SOFT KEY**.

- **Set Up Hwy (Highway)—** allows you to select what waypoints and tracks are shown on the Highway display. Use the **ARROW KEYPAD** and **ENTER/MARK** key to select/deselect the desired options. Four options are available:
  - Active Route Waypoints— all active route waypoints.
  - User Waypoints— only nearby waypoints to the route.
  - Track Log— current active track log.
  - Saved Tracks— any saved track logs near the route.

Active Route Page

Whenever you have activated a route in the GPSMAP 2006/2010 system, the Active Route page will shows each waypoint of the active route, along with various, user-selectable types of data. For additional details on the Active Route Page, see page 52.

Creating and Using Waypoints

The Garmin GPSMAP 2006/2010 stores up to 3000 alphanumeric waypoints with a user-defined icon, comments and depth (depth automatically displays if valid sonar data is being received. See pg. 76) available for each waypoint. Waypoints can be created using two basic methods:

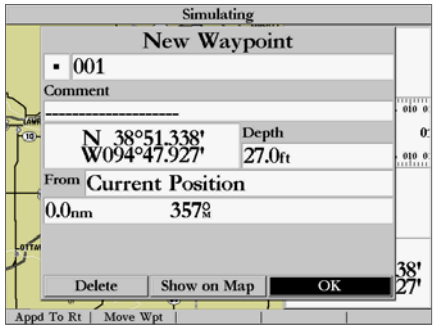
- **ENTER/MARK** key– used primarily for marking your present position. You may also enter a new waypoint's position coordinates manually (from a chart, etc.).
- Graphically– allows you to define a new waypoint position from the map display using the **ARROW KEYPAD**.

ENTER/MARK Key

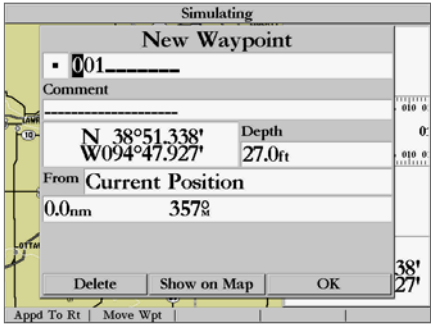
The Garmin GPSMAP 2006/2010's **ENTER/MARK** key lets you quickly capture your present position— or cursor or map item position— in order to create a new waypoint. You must have a valid position (2D or 3D) fix to mark your present position. (This can be determined by looking at the GPS tab on the Main Menu.) When you move the cursor over a map item, you will see a highlighted description of that item. You may also use this option to manually enter waypoint coordinates.

To mark your present position:

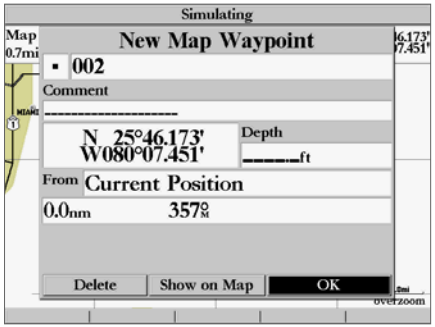
1. Press and hold the **ENTER/MARK** key until the 'New Waypoint' window appears then release it. You will see a default three-digit name and symbol for the new waypoint.
2. To accept the waypoint with the default name and symbol, press **ENTER/MARK** to confirm the highlighted 'OK' prompt.
3. To enter a different name, highlight the name field and press the **ENTER/MARK** key, then use the **DATA ENTRY** keys (see page 7-8) to enter the new letter/numbers and press **ENTER/MARK** when done. Note: You may use up to 10 alphanumeric characters for the name.
4. To enter a different symbol, highlight the symbol field to the left of the name and press the **ENTER/MARK** key, then use the **ARROW KEYPAD** to highlight the new symbol and press **ENTER/MARK**.
5. To enter optional comments or a depth, highlight the desired field and press the **ENTER/MARK** key, then use the **DATA ENTRY** keys (see page 7-8) to enter a value and press **ENTER/MARK**.
6. To manually enter a set of coordinates, highlight the coordinates and press the **ENTER/MARK** key, then use the **DATA ENTRY** keys (see page 7-8) to enter the new coordinates and press **ENTER/MARK** when done.
7. When done, use the **ARROW KEYPAD** to highlight the 'OK' prompt and press **ENTER/MARK** to save the waypoint into memory.



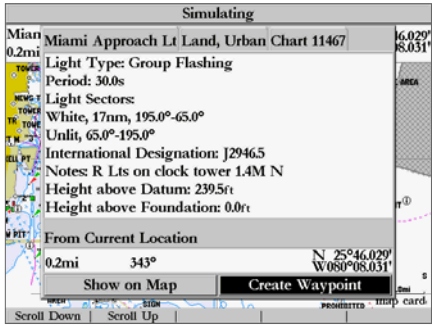
Press ENTER/MARK to use the default name and symbol.



Highlight a field and press ENTER/MARK to enter a new symbol, name, comment or depth.



Map waypoint from non-map item



Choose 'Create Waypoint' to use a map item for a new waypoint.

Creating Waypoints Graphically

Waypoints may also be quickly created from the map display, which allows you to 'point and shoot' at any map position to create a new waypoint. To mark a map item, select the desired map item with the cursor. The option 'Create Waypoint' appears in addition to a description of that point and its distance and bearing from your current position.

To create a new waypoint graphically:

1. Use the **ARROW KEYPAD** to move the cursor to the desired map position. If you want to create the new waypoint at an on-screen map item, highlight the map item on the map display.
2. Press and release the **ENTER/MARK** key to capture the cursor position. Do not hold the button down, as doing so will mark your present position, not the map position.

   If you are not using a map item to create a waypoint, go to step 4.
3. Highlight 'Create Waypoint' or 'OK' and press the **ENTER/MARK** key.
4. To accept the waypoint with the default name and symbol, press **ENTER/MARK**.
5. To change the name, symbol, coordinates, or add a comment or depth, highlight the appropriate field and press **ENTER/MARK**. Make your changes and press **ENTER/MARK** when done.
6. After entering and confirming your changes, move the field highlight back to the 'OK' prompt and press **ENTER/MARK**.

Reviewing and Editing Waypoints

Once you have created and stored a waypoint, it may be modified, reviewed, renamed, moved, or deleted at any time using the Waypoint Edit page. The Waypoint Edit page is available for any stored waypoint by highlighting the desired waypoint from the map display, or selecting it from the waypoint lists under the 'Points' tab in the Main Menu and pressing the **ENTER/MARK** key once.

To access the Waypoint Edit page:

1. Use the **ARROW KEYPAD** to highlight the desired waypoint on the map display. You may also press **MENU**, highlight the 'Points' tab, and then highlight a waypoint from the 'User' or 'Proximity' waypoint lists.
2. Press **ENTER/MARK** to display the Waypoint Edit page.

From the Waypoint Edit page, you may change the name, symbol, comment, position coordinates, or depth for the selected waypoint. Once the changes have been made, highlight 'Next' and press **ENTER/MARK** to save them or press **QUIT**.

To change the waypoint name:

1. Highlight the waypoint name field and press **ENTER/MARK**.
2. Use the **DATA ENTRY** keys to enter a new name and press **ENTER/MARK** when done.

To change the waypoint symbol:

1. Highlight the waypoint symbol field to the left of the waypoint name and press **ENTER/MARK**.
2. Use the **ARROW KEYPAD** to select the desired symbol and press **ENTER/MARK** when done.

To change the Comment/Position Coordinates/Depth:

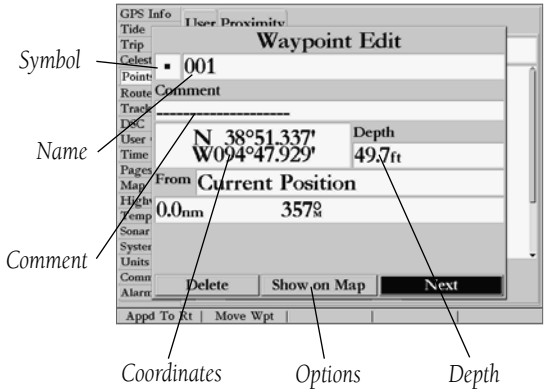
1. Highlight the desired field and press **ENTER/MARK**.
2. Use the **DATA ENTRY** keys to edit/enter the data. To drop to the next line, press to the right on the **ARROW KEYPAD**.
3. Press **ENTER/MARK** when done.

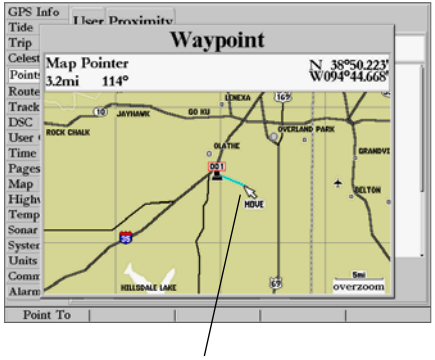
To move the waypoint on the map:

1. From the Waypoint Edit page, highlight 'Show Map' and press **ENTER/MARK**. Highlight the waypoint and press **ENTER/MARK**. A 'MOVE' label will now appear under the cursor arrow in addition to a distance, bearing, and coordinate window. You may also use the IN and OUT keys to zoom the map. The map scale will appear in the lower right corner.
2. Use the **ARROW KEYPAD** to point to the new position and press **ENTER/MARK**. If you wish to stop the move process, press **QUIT**.

Point Submenus

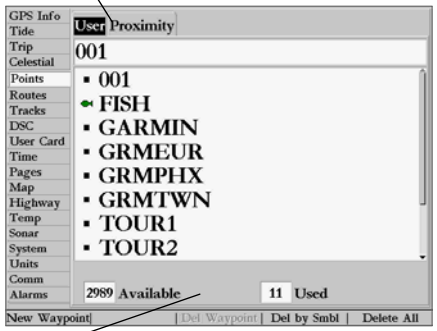
The GPSMAP 2006/2010's Main Menu Page features two waypoint submenu tabs, 'User' and 'Proximity', that let you manage a large number of waypoints quickly and efficiently. The submenu tabs also provide a continuously updated proximity waypoint alarm function that can be used to define an alarm circle around submerged hazards, shallow waters, etc.





Point to a new location and press ENTER/MARK to move the waypoint.

Submenu Tabs



Point List Status *Waypoint List*

To access the Main Menu Page/Waypoint (Points) submenus:

1. Press **MENU**, then highlight the 'Points' tab using the **ARROW KEYPAD**, then highlight the desired submenu tab.

User Waypoint List

The first waypoint submenu list available from the 'Points' tab is the 'User' list, which displays a master list of all waypoints currently stored in memory. From the User list, you may review, edit, rename or delete individual waypoints, or delete all user waypoints. The total number of stored and available waypoints is displayed at the bottom of the 'User' page, with the stored waypoints arranged in numerical/alphabetical order. The following options are available from the 'User' list of the 'Points' tab:

- Delete Waypoint— deletes selected waypoint from list and any route in which it was used.
- Delete By Symbol— deletes waypoints that use the same symbol.
- Delete All— deletes all waypoints from the unit.

Once a waypoint is deleted from the list, it cannot be recovered from the unit. It is advisable to backup important waypoints to a computer using an optional PC cable and MapSource interface software or record them manually.

To scroll through and review the waypoint list:

1. With the **ARROW KEYPAD**, highlight the 'Points' tab from the main menu page and then highlight 'User'.
2. Use the **ARROW KEYPAD** to scroll through the list in the desired direction.
3. Press **ENTER/MARK** to review the highlighted waypoint on the 'Waypoint Edit' page.
4. Press **ENTER/MARK** to return to the list and automatically highlight the next waypoint.

To delete an individual waypoint from the list:

1. Use the **ARROW KEYPAD** to highlight the waypoint to be deleted.
2. Press the 'Delete Waypoint' **SOFT KEY**. You may also highlight the waypoint, press **ENTER/MARK**, then highlight 'Delete' and press **ENTER/MARK**.
3. Press the **ENTER/MARK** key to confirm the deletion warning.

To delete waypoints by symbol:

1. From the 'User' tab, press the 'Delete By Symbol' **SOFT KEY**.
2. Use the **ARROW KEYPAD** to highlight the symbol of the waypoint(s) to be deleted and press **ENTER/MARK**.
3. Press **ENTER/MARK** to confirm. You may also choose 'Cancel' or press **QUIT** to stop the deletion.

To delete all waypoints or the entire waypoint list:

1. From the 'User' tab, press the 'Delete All' **SOFT KEY**.
2. Press **ENTER/MARK** to confirm. You may also choose 'Cancel' or press **QUIT** to stop the deletion.

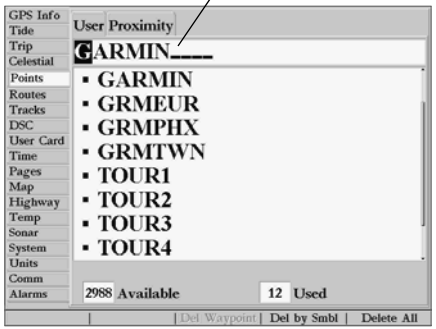
Proximity Waypoint List

The second waypoint submenu list available from the 'Points' tab is the 'Proximity' list, which lets you define an alarm circle around a stored waypoint position, and can be used to help you avoid reefs, rocks, or restricted waters. Up to ten waypoints may be listed, with a maximum alarm radius of 99.99 nautical or statute miles or kilometers. If a proximity alarm circle overlaps with an existing alarm circle, a 'Proximity Overlaps Another Proximity Waypoint' message will appear. Since the unit will only alert for one of the overlap points, use caution when navigating in these areas. If you enter an alarm circle overlap, you will only be alerted to the closest proximity waypoint.

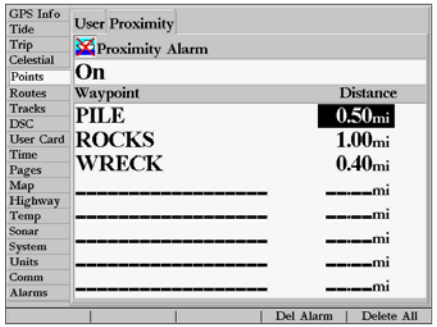
To add a proximity waypoint:

1. Use the **ARROW KEYPAD** to highlight an empty space on the Proximity list and press **ENTER/MARK** or press the 'Add Waypoint' **SOFT KEY**. The 'Find' screen appears. Highlight 'Waypoints' and press **ENTER/MARK**. You may also select from other items listed on the 'Find' screen.
2. To select a waypoint from the lists, use the **ARROW KEYPAD** to highlight the desired waypoint from the 'User' or 'Nearest From Current Position' tab lists.

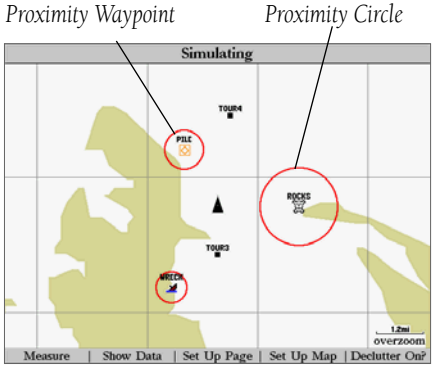
   To select a waypoint from the map, highlight either the 'By Name' or 'Nearest From Current Position' tab and press the 'Select From Map' **SOFT KEY**. Use the zoom **IN** and **OUT** buttons and the **ARROW KEYPAD** to highlight a waypoint.
3. Press **ENTER/MARK** to confirm. The distance field will now be highlighted.
4. Press **ENTER/MARK** to begin entry of the proximity radius.
5. Use the **DATA ENTRY** keys to enter a distance value (to 99.99 units) and press **ENTER/MARK**.



You can also search for a waypoint by name:
1. Highlight the name field and press ENTER/MARK.
2. Use the DATA ENTRY to select the first letter of the name.
3. Enter the second letter if you do not see it on the list below.
4. Repeat this until the name appears. Press ENTER/MARK when you see the name.



Proximity Waypoint List



A circle (red) will appear showing the alert boundary for the proximity waypoints.

To turn proximity alarms on or off:

1. Use the **ARROW KEYPAD** to highlight the field below "Proximity Alarm" and press **ENTER/MARK**.
2. Select the desired 'ON' or 'OFF' setting and press **ENTER/MARK**.

The following **SOFT KEY** options are available from the 'Proximity' submenu of the 'Points' tab:

- Clear Alarm— removes selected waypoint from proximity list.
- Clear All— removes all waypoints from proximity list.

To clear one or all proximity waypoint(s) from the list:

1. Use the **ARROW KEYPAD** to highlight the proximity waypoint to clear.
2. To clear a single alarm, press the 'Clear Alarm' **SOFT KEY**.
3. To clear all proximity waypoints, press the 'Clear All' **SOFT KEY**.
4. Use the **ARROW KEYPAD** to highlight the 'OK' prompt and press **ENTER/MARK** to confirm.

Going to a Destination

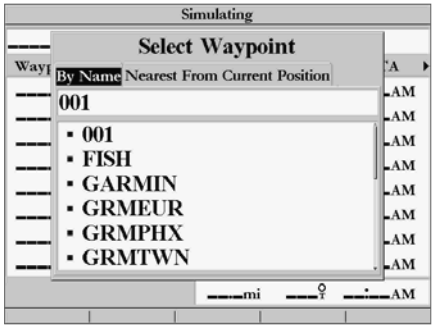
Using the **NAV** key, the GPSMAP 2006/2010 provides three ways to navigate to a destination: Go To Point, Follow Route, and Follow Track (TracBack). Once you are actively navigating, you will see a straight line that always runs from your current location to the destination. The easiest method for selecting a destination is the 'Go To' function, which lets you select a destination point and quickly sets a direct course from your present position. If you have a point, route or track highlighted on a list or the map, 'Go To <point name>' will appear in addition to 'Go To Point'. The 'Go To' function can be accessed from any list of points or graphically from the map display.

To activate a 'Go To' from a point list:

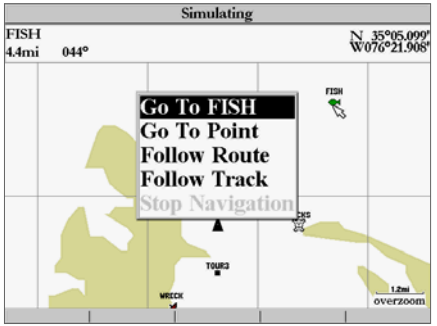
1. Press the **NAV** key.
2. Use the **ARROW KEYPAD** to highlight 'Go To Point' and press **ENTER/MARK**.
3. From the 'Find' menu, highlight 'Waypoints' and press **ENTER/MARK**. (You may also choose to go to other points, such as Cities, Tide Stations, etc. from this list.)
4. To select a waypoint from the waypoint lists, use the **ARROW KEYPAD** to highlight either the 'By Name' or 'Nearest From Current Position' tab, select a waypoint and press **ENTER/MARK**. Use the zoom **IN** and **OUT** buttons and the **ARROW KEYPAD** to select a waypoint, then press **ENTER/MARK**.
5. You may also activate a 'Go To' for any point, on any list. With any list point highlighted, press the **NAV** key. You will see 'Go To <point name>' appear, then press **ENTER/MARK**.

Selecting a 'Go To' Graphically

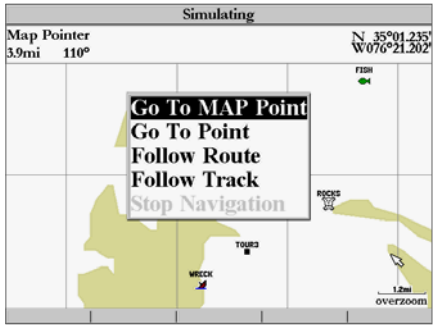
A graphical 'Go To' may be used to select one of three items from the map display: an existing waypoint, an on-screen map item (roads, rivers, cities, navaids, etc.), or a new map point (non-map item). If you are selecting a map item as the 'Go To' destination, the GPSMAP 2006/2010 automatically uses the name of the map item, but the point is not stored in the waypoint list. See page 36 for creating waypoints using map items. If you are selecting a new map point (non-map item) as the 'Go To' destination, the GPSMAP 2006/2010 automatically creates or moves a waypoint named 'MAP' at the cursor position.



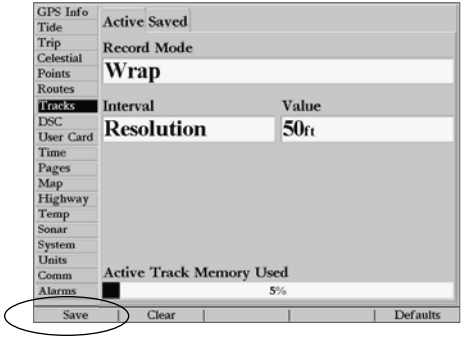
Choose a waypoint from either the 'User' or 'Nearest From Current Position' tab list.



The waypoint or map item name will automatically appear when highlighted and NAV is pressed.



'Go To MAP Point' allows you to navigate to a spot on the map which is not a waypoint or map item.



Press the 'Save' SOFT KEY to save an active track log.

To activate an existing waypoint or map item as a 'Go To' from the map display:

1. Use the **ARROW KEYPAD** to highlight the waypoint or map item on screen and press **NAV**.
2. You will see 'Go To <waypoint name>', then press **ENTER/MARK**. You may also highlight the waypoint or map item, press **ENTER/MARK** to review it first, press **NAV** and then press **ENTER/MARK**.

To activate a new map point (non-map item) as a 'Go To' from the map display:

1. Use the **ARROW KEYPAD** to move the arrow cursor to the desired position.
2. Press **NAV**, you will see 'Go To MAP Point' highlighted, then press **ENTER/MARK**.

TracBack Navigation (Follow Track)

The second method of navigating to a destination is by using the TracBack or Follow Track feature. The TracBack function allows you to retrace your path using the track log automatically stored in the receiver's memory, which eliminates the need to store waypoints along the way. TracBack routes are created by reducing your track log into a route of up to 254 turns and activating a route along those points. Once activated, a TracBack route leads you along the stored track log points, so it's a good idea to clear the existing track log before the start of your current trip.

To clear the track log and define a starting point for a TracBack route:

1. Press the **MENU** key to display the Main Menu page.
2. Using the **ARROW KEYPAD**, highlight the 'Tracks' tab, then highlight the 'Active' tab to the right.
3. Press the 'Clear' **SOFT KEY** to select the 'Clear' option.
4. Highlight the 'OK' field and press **ENTER/MARK** to confirm

You must first save the track log before you can use the 'Follow Track' feature. The Save feature allows you to store up to 20 track logs from certain times and dates.

To save a track log:

1. From the Main Menu, use the **ARROW KEYPAD** to highlight the 'Track' tab, then highlight the 'Active' tab to the right.
2. Press the 'Save' **SOFT KEY** to select the 'Save' option.
3. From the 'Save Back Through' window, highlight the desired time, date, or 'Entire Log', and then press **ENTER/MARK.**

4. Next, the track begins saving and then displays the 'Saved Track' window when done. The default name, distance and number of points (1000 max) are displayed.
5. To change the name of the saved track, highlight the name field, and press **ENTER/MARK**. Make your changes and press **ENTER/MARK** again. You may also choose a Style (monochrome units) or Color (color models) that is used to display the saved track line. If you wish for the saved track to be displayed on the Map and Highway page, highlight the check box to the left of 'Show on Map and Highway' and press **ENTER/MARK**. Highlight 'OK' and **ENTER/MARK** press to save the track.

To activate a TracBack using the NAV key:

1. Press the **NAV** key, then highlight the 'Follow Track' option, and press **ENTER/MARK**.
2. Highlight the track you wish to follow and press **ENTER/MARK**.
3. If you wish to navigate from the end to the beginning (reverse) of your trip, press the 'Invert' **SOFT KEY**.

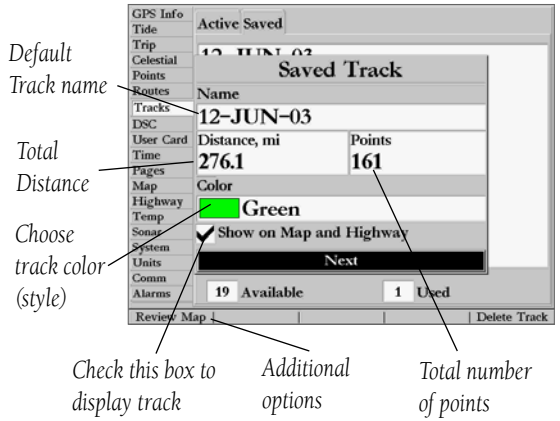
Once a TracBack has been activated, the GPSMAP 2006/2010 takes the track log currently stored in memory and divides it into segments called 'legs'. Up to 254 temporary 'turns' are created to mark the most significant features of the track log in order to duplicate your exact path as closely as possible. To get the most out of the TracBack feature, remember the following tips:

- Always clear the track log at the beginning of your trip.
- The 'Record Mode' option on the track log setup page must be set to 'Fill' or 'Wrap'.
- There must be at least two track log points stored in memory to create a TracBack route.
- If the track log interval is set to the 'Time' option, the route may not follow your exact path. Keep the interval set to 'resolution' for best performance.
- If the receiver is turned off or satellite coverage is lost during your trip, the TracBack will draw a straight line between any point where coverage was lost and where it resumed.
- If your track log's changes in distance and direction are too complex, 254 points may not mark your path accurately. The receiver then assigns the 254 points to the most significant points of your track, and simplifies segments with fewer changes in direction.

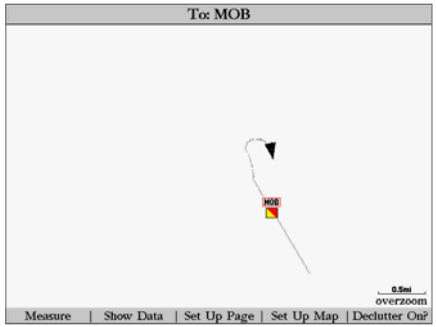
To stop TracBack navigation:

1. Press the **NAV** key, highlight 'Stop Navigation' and press **ENTER/MARK**.

For more information on setting up the Track options and saved tracks, see pages 63-64.



You must first save a track before using the 'Follow Track' option.



The MOB function allows you to quickly activate a navigation back to a location.

MOB

The GPSMAP 2006/2010's Man OverBoard function (MOB) lets you simultaneously mark and set a course to a position for quick response to emergency situations.

To activate the MOB function:

1. Press the **MOB** key.
2. Press the **ENTER/MARK** key to confirm and begin navigating to the MOB position.

When a MOB has been activated, a 'MOB' waypoint with an international MOB symbol is created and the unit will be on an active navigation to that point. Use any of the Navigation Pages to guide you back to the MOB point. The MOB waypoint is stored in the waypoint list and may be deleted like any other waypoint.

To stop navigation to the MOB position:

1. Press the **NAV** key, highlight 'Stop Navigation', and press **ENTER/MARK**.

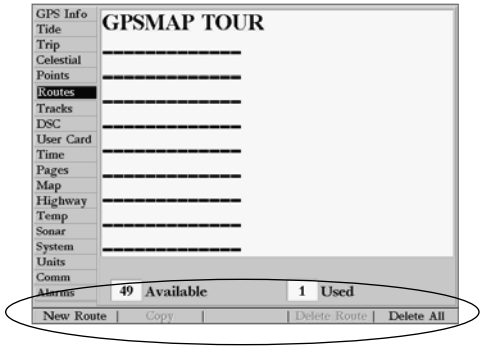
Routes

The last way to navigate to a destination is to create a user-defined route. The Garmin GPSMAP 2006/2010 system lets you create and store up to 50 reversible routes (numbered 1-50), with up to 254 waypoints each. Routes can be created and modified in two ways. The first way is to 'Edit on Map' from the Route Edit map page, which allows you to see each route graphically on-screen as you create, review, or modify the route. The second way is to 'Edit as Text' from the Route Review page, which allows you to see a list of the waypoints as you create, review, or modify the route. All of the GPSMAP 2006/2010's route functions are accessed through the Main Menu page or the **NAV** key.

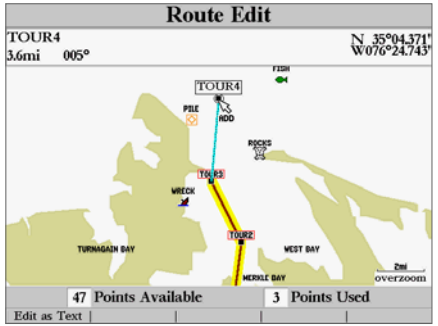
To create a route graphically from the Route Edit map page:

1. Press the **MENU** key to display the Main Menu page.
2. Use the **ARROW KEYPAD** to highlight the 'Route' tab and press the 'New Route' **SOFT KEY** or you may also highlight the first available blank route slot and press **ENTER/MARK**.
3. To add an existing waypoint or map item to the route, use the arrow cursor to highlight the desired waypoint or map item on screen and press **ENTER/MARK**. Map items will not appear in the waypoint list. To create a waypoint from a map item, see page 36.
4. To add a new waypoint to the route, use the arrow cursor to select the desired map position and press **ENTER/MARK**. Press **ENTER/MARK** again to confirm the new waypoint. You may also change the name and symbol of the new waypoint (see page 37).

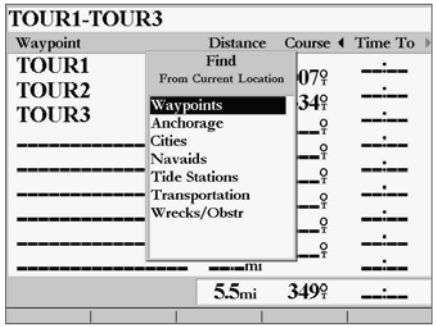
   As you add each new waypoint to the route, the data window at the top of the map display shows the waypoint/map item name, bearing and distance from your first point, and coordinates of the cursor. After additional points are added, the bearing and distance is calculated from the location of the previous route point. The bottom of the display shows you the number of available and used points. A route line appears on the map to indicate each completed leg, and a dotted line (yellow on color models) appears to indicate the distance and bearing to the arrow cursor from the last route waypoint.
5. Repeat steps 3 and 4 until you have finished defining all route waypoints.
6. When finished press **QUIT** twice to return to the Route List page or press the 'Edit as Text' **SOFT KEY** to return to the Route Review page.



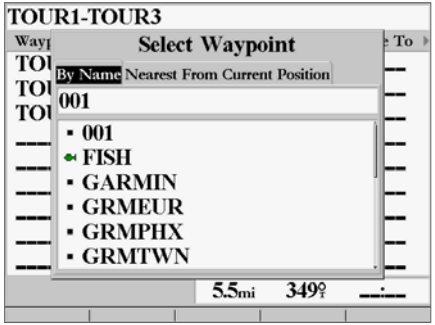
Route Tab and SOFT KEY Options



You will see 'ADD' below the cursor as you add points.



Choose the category you want to add a route point from.



Choose a waypoint from either the 'By Name' or 'Nearest From Current Position' tab list.

To create a route using text from the Route Review page:

1. Press the **MENU** key to display the Main Menu page.
2. Use the **ARROW KEYPAD** to highlight the 'Route' tab and press the 'New Route' **SOFT KEY** or you may also highlight the first available blank route slot and press **ENTER/MARK**.
3. Press the 'Edit as Text' **SOFT KEY**.
4. Use the **ARROW KEYPAD** to highlight the first field under the word "Waypoint" and press **ENTER/MARK.**
5. From the 'Find' menu, highlight 'Waypoints' and press **ENTER/MARK**. (You may also choose from other points, such as Cities, Tide Stations, etc. from this list.) From either the "User" or "Nearest From Current Position" tab lists, choose the waypoint you want and press **ENTER/MARK**. (See page 38-39 for searching for waypoints by name.)
6. From the Waypoint Review or map item information page, 'OK' will be automatically highlighted. You may use the 'Show On Map' option to view the point on the map, then press **QUIT** when done viewing to return to the Waypoint Review page. Press **ENTER/MARK** to add the point to the route. The next field down on the list will automatically highlight.
7. Keep using the methods on steps 4-6 until the desired route points have been entered. Press **QUIT** to return to the Route List page.

Route List Page

The GPSMAP 2006/2010 Route List page displays all the routes currently stored in memory, along with a descriptive name for each route. Once a route has been created, it can be activated and used for navigation with the **NAV** key. A route may be followed in the same sequence as it was originally created, or you can invert the route and navigate from the end waypoint back to the beginning waypoint. From the Route list menu, you may choose 'New Route' (pg 45), 'Copy Route', 'Delete Route', or 'Delete All'.

To activate a route with the NAV key:

1. From any page, press the **NAV** key, then using the **ARROW KEYPAD**, highlight 'Follow Route' and press **ENTER/MARK**. (If you highlight a route from the Route List or Route Review page and press **NAV**, the window will automatically display, 'Follow <the route name>'.)
2. Highlight the route you wish to navigate and press **ENTER/MARK**.
3. If you wish to navigate from the start to the end (reverse) of your route, press the 'Invert' **SOFT KEY**.

To deactivate (stop navigation) of a route:

1. Press the **NAV** key, highlight 'Stop Navigation' and press **ENTER/MARK**.

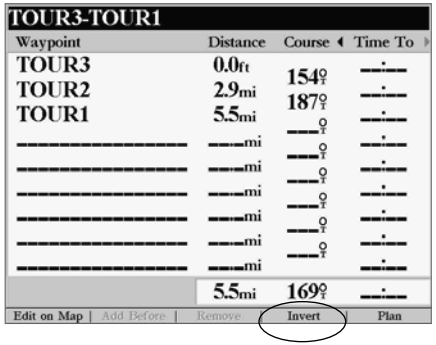
To copy or delete a route:

1. From the Route List, using the **ARROW KEYPAD**, highlight the route you want to copy or delete and press **MENU**.
2. Choose either 'Copy' or 'Delete Route' and press **ENTER/MARK** and with "OK" highlighted, press **ENTER/MARK** again to confirm a deletion. Copy will use the same route name with an additional number, starting with 1, at the end of the route name.

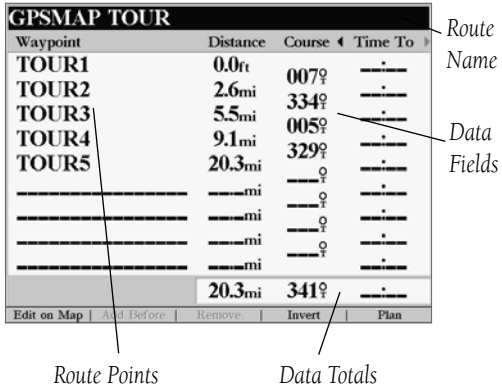
To delete all routes:

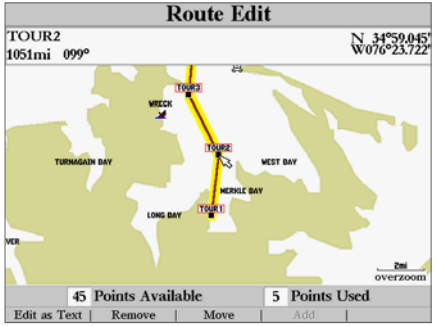
1. From the Route List, press **MENU**.
2. Highlight 'Delete All' and press **ENTER/MARK** and with "OK" highlighted, press **ENTER/MARK** again to confirm the deletion.

If you highlight a route name from the Route List and press NAV, the name will automatically appear.



'Pressing the "Invert" SOFT KEY will reverse the route.





Highlight a point and press ENTER/MARK to review it.

Route Review Page

Once you have created a route, the Route Review page allows you to review and modify the route displayed.

To get to the Route Review page:

1. Press **MENU**, highlight the 'Route' tab.
2. Highlight the name of the route you wish to review and press **ENTER/MARK**.

The Route Review page also allows you to enter your own 15-character name for any listed route. By default the name includes the first and last waypoints in the route.

To enter a custom route name:

1. From the Route Review page, highlight the name field and press **ENTER/MARK** to begin editing.
2. Use the **DATA ENTRY** keys to enter the desired name and press **ENTER/MARK** when finished.

Once you are on the Route Review page, you may review the route points (waypoints or map items) one at a time from the list:

To review individual route points:

1. Highlight the desired point and press **ENTER/MARK**.
2. On the waypoint review window, you may choose 'Next' (highlight the next point on the route list), 'Show on Map' (show the point on a map window) or 'Delete' (permanently delete the waypoint from the unit) and press **ENTER/MARK**.

Once you are back on the route point list, the next point in the route is automatically highlighted. This allows you to review each point on the route by pressing only ENTER/MARK repeatedly.

Route Review SOFT KEY Options

SOFT KEY options available from the Route Review page are 'Edit on Map', 'Add Before', 'Remove, Invert', and 'Plan'.

• **Edit on Map—** This option allows you to review and/or modify the route points (waypoint or map item) on a map page. You may also use the cursor to insert a new route point on a route leg, review the waypoint or map item.

To edit the route on the map:

1. From the Route Review page, press the 'Edit on Map' **SOFT KEY**.

To edit a route point:

1. Use the **ARROW KEYPAD** to highlight the desired route waypoint.

To review a route point:

1. Highlight the point and press **ENTER/MARK**. Press **ENTER/MARK** again when done.

SOFT KEY editing choices are displayed, with options for removing, moving (user waypoints only), or adding turns to the beginning or end of the route.

To remove a route point:

1. Press the 'Remove' **SOFT KEY**.

To move a route waypoint:

1. Highlight the 'Move' option and press **ENTER/MARK**.
2. Move the cursor to the new map position and press **ENTER/MARK**.

To add turns at the beginning or end of the route:

1. Select the first (to add waypoints to the beginning of the route) or last (to add waypoints to the end of the route) route waypoint with the map cursor.
2. Press the 'Add' **SOFT KEY**.
3. Move the cursor to the new point or position and press **ENTER/MARK**.
4. If you are not inserting an existing waypoint, press **ENTER/MARK** to confirm the new waypoint.
5. Repeat steps 3 and 4 to insert additional waypoints, or press **QUIT** to finish.

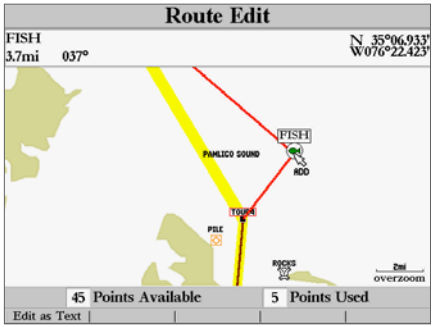
The GPSMAP 2006/2010's route edit mode also allows you to insert a new route waypoint in any route leg using the map cursor.

To insert a new point between two existing route waypoints:

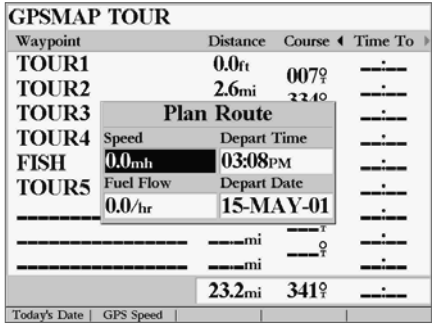
1. Use the **ARROW KEYPAD** to select the leg you want to insert the new waypoint in (the route line is highlighted and changes to a dotted line (red) when the leg is selected) and press **ENTER/MARK**.
2. Move the cursor to the new map position, existing waypoint, or map item (You will see 'Add' below the arrow and the route lines will move with the arrow.) and press **ENTER/MARK**.
3. If you are not inserting an existing point, press **ENTER/MARK** to confirm the new waypoint.

Choose 'Next' to center the map on the next point in the route. You can step through the points by repeatedly pressing ENTER/MARK.

Highlight the route leg on which you wish to insert a waypoint and press ENTER/MARK.



Drag the route leg to an existing waypoint (shown), map item, or a blank spot on the map to create a new route point.



Trip Planning Data Window

• **Add Before—** Allows you to insert a waypoint into the list of route points or add a point(s) onto the end of the route.

To insert a point into the route or add a point to the end:

1. From either the Route Review or Active Route pages, use the **ARROW KEYPAD** to highlight the point you wish to insert the new point before (To add a point to the end, highlight the blank field at the bottom of the list) and press **MENU**.
2. Highlight 'Add Before' and press **ENTER/MARK**.
3. From the 'Find' menu, highlight 'Waypoints' and press **ENTER/MARK**. (You may also choose from other points, such as Cities, Tide Stations, etc. from this list.) From either the 'By Name' or 'Nearest From Current Position' tab lists, choose the waypoint you want and press **ENTER/MARK** twice. (See page 38-39 for searching for waypoints by name.)

   To select a waypoint from the map, highlight the 'By Name' or 'Nearest' tab and press **MENU**. With 'Select From Map' highlighted, press **ENTER/MARK**. Use the zoom **IN** and **OUT** buttons and the **ARROW KEYPAD** to highlight a waypoint on the map and press **ENTER/MARK**.

• **Remove—** Allows you to remove a point (waypoint or map item) from a route. This option is available from both the Route Review and Active Route Pages.

To remove a point from a route:

1. From either the Route Review or Active Route pages, use the **ARROW KEYPAD** to highlight the point to remove and press **MENU**.
2. Highlight 'Remove' and press **ENTER/MARK**.

• **Invert—** Allows you to reverse the order of points in a route. This option is available from both the Route Review and Active Route Pages.

To invert a route:

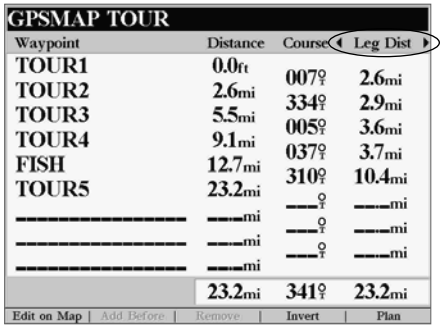
1. From either the Route Review or Active Route pages, press the 'Invert' **SOFT KEY**.
2. Press the 'Invert' **SOFT KEY** again to restore the route points to their original order.

• **Plan—** The Route Review and Active Route pages also display trip-planning information for each leg or the entire route. By entering your estimated speed, Fuel Flow, Departure Date, and Time, the unit calculates your trip information and display it in the data field on the far right of the Route Review and Active Route pages. Available information includes ETA, Fuel (to point), Leg Distance, Leg Fuel, Leg Time, Sunrise and Sunset (at point location), and Time To (point). Distance and Course between legs are automatically displayed for all route points.

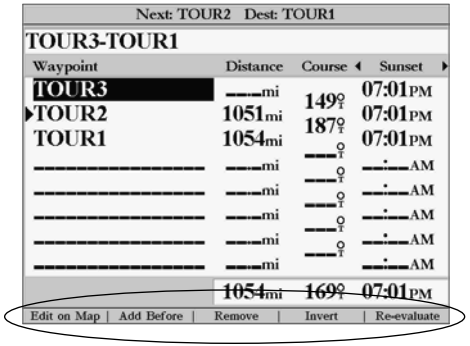
To use the Trip Planning feature:

1. To select the desired planning figure, highlight the desired route from the Route List and press **ENTER/MARK** to display the Route Review page or you if you are already on an active route, press **PAGE** or **QUIT** until the Active Route Page is displayed.
2. One of eight available data types appears to the far right of each route point along with the distance and course. Use the LEFT/RIGHT keys on the **ARROW KEYPAD** to cycle through the data types.
3. To enter planning information, from the Route Review Page only, press the 'Plan' **SOFT KEY**. Enter the figures for Speed, Fuel Flow, Departure Time, and Departure Date. Press **QUIT** to return to the Route Plan Page.

Fuel flow rates on your unit are measured in "units per hour". System setting changes for units of measure (statute, nautical or metric) do not affect the fuel flow measure. You should enter fuel flow rates based upon available information for your vehicle (operator's manual, performance specifications, etc.) and make note of the desired units of measure (gallons, liters, etc.).



Press LEFT or RIGHT on the ARROW KEYPAD to change the data types.



Active Route Page and SOFT KEY Options

Active Route Page

Whenever you have activated a route in the GPSMAP 2006/2010 system, the Active Route page shows each point (waypoint or map item) of the active route, with the point name, distance, and course. You may also select ETA, Fuel to point, Leg Distance, Leg Fuel, Leg Time, Sunrise and Sunset at point location, or Time To point for each point from your present position. The current destination point, the 'active' point, is marked with an arrow icon. As you navigate a route, the waypoint list automatically updates to indicate the next 'active' point first. The Active Route and Route Review pages share many of the same features and options.

The following route options are available from the Active Route page:

- Edit on Map— see pages 48-49 for instructions.
- Add Before— see pages 49 for instructions.
- Remove— see pages 49 for instructions.
- Invert— reverses the direction of the route.
- Re-evaluate— recalculates and reactivates the current route data.

• **Re-evaluate—** Reactivates the current route and selects the route leg closest to your current position as the active leg. The active leg defines the current 'from' and 'to' waypoints.

To Re-evaluate an active route:

1. From the Active Route page, press the 'Re-evaluate' **SOFT KEY** to recalculate.

Find

The **FIND** key allows you to search the units for user waypoints, map items, and any optional BlueChart or MapSource information loaded on a data card. By pressing the **FIND** key, the unit searches for items from your current location by default or you may also search from other locations. When you press **FIND**, a list of available items to search from appears. The default items are Waypoints, Cities, Tide Stations, and Transportation. Additional items, such as Anchorages, Businesses, Exits, Navaids, Restricted Areas, Wrecks Obstructions, etc., display depending on the optional BlueChart or MapSource data card inserted into the unit. If you pan around on the Map Page and press **FIND**, the unit centers its search from the point where the cursor is located. When using BlueChart or MapSource data, your position or the map pointer must be within the map outline area to search for information from that area.

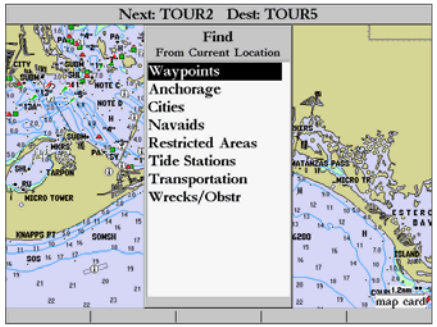
To Find a waypoint or other item from your current location:

1. From any page, press **FIND**.
2. Using the **ARROW KEYPAD**, highlight the desired category from the list and press **ENTER/MARK**.
3. For Waypoints and Cities, you may search using 'By Name' or' Nearest'. Use the **ARROW KEYPAD** to highlight the desired tab. For 'By Name', you may use the top field to spell out the name or scroll down through the list. (See also page 39 sidebar for steps on entering a name.)

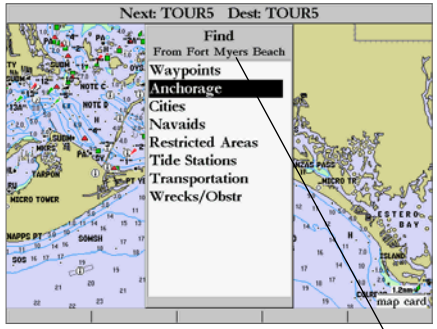
To Find a waypoint or item from other locations:

1. From the Map Page, use the **ARROW KEYPAD** to pan to the desired location and press **FIND**.
2. Using the **ARROW KEYPAD**, highlight the desired category from the list and press **ENTER/MARK**.

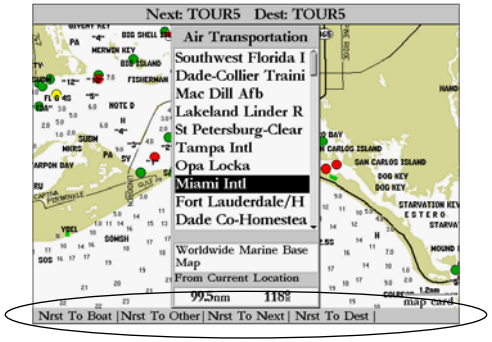
The Find option supports a "find from" feature, which allows you to center your search around an item that you have just found using the Find function. For example, you search for 'Restricted Areas" and the search shows an "Anchoring Prohibited" search result. If you press **FIND** again, you will see "From Anchoring Prohibited" as the new search from point. You may also use the Find feature to center your search from any waypoint or route list entry, map item, or tide station. Highlight the item you want to Find 'from', and press the **FIND** key.



Find Items List

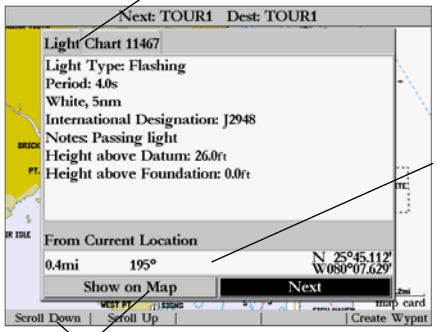


You may also Find from items found on the Find List. The Waypoint Review Page additionally has a field to Find item distances from the Waypoint.



Find Menu SOFT KEY options

Additional Information Tabs



Distance, Bearing, Coordinates of item

Additional Option Options

Additional Information Window

Find Options

Using the Find options, you may search from various map data and utilize a variety of nearest criteria for all items except waypoints. Available Find options are:

- Nrst (Nearest) To Boat— centers search from your boat's current location
- Nrst To Other— allows you to choose another map location from which to search.
- Nrst To Next— centers search from the next point of your active route.
- Nrst To Dest (Destination)— centers search from the last point of your active route.

To Find an item using the Find options:

1. From any page, press **FIND**.
2. Using the **ARROW KEYPAD**, highlight the desired category from the list and press **ENTER/MARK**.
3. From the search results list, press the desired **SOFT KEY** option.

Additional Information

Any item you locate using the Find feature will also have additional information, such as item classification, distance, bearing and coordinates, data source, etc., depending on the type of data on the optional BlueChart or MapSource data card. Tabs will appear at the top of the detail window, along with additional option buttons at the bottom.

To view additional information for a Find item:

1. From the Find search results list, highlight an item and press **ENTER/MARK**.
2. Use the **ARROW KEYPAD** to highlight the individual tabs to display the information and additional options. To scroll up, down, left and right in additional text windows (show notes), highlight the field and press **ENTER/MARK**, the use the **ARROW KEYPAD** to scroll, or press the desired **SOFT KEY** scroll option. You may also choose to create a waypoint using the 'Create Wypnt' **SOFT KEY** option.

Main Menu Page

The GPSMAP 2006/2010's Main Menu Page provides access to various waypoint, system, navigation and interface management, and setup menus in an easy to use "tab" format. The Main Menu page is available from any page in the GPSMAP 2006/2010's system, and is accessed through the **MENU** key. See pages 6-8 for additional instructions changing settings and entering data.

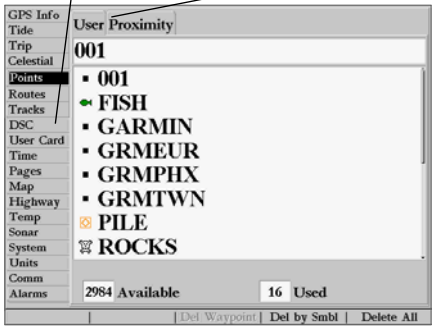
To access the Main Menu Page, press MENU.

To select a Menu tab from the Main Menu page:

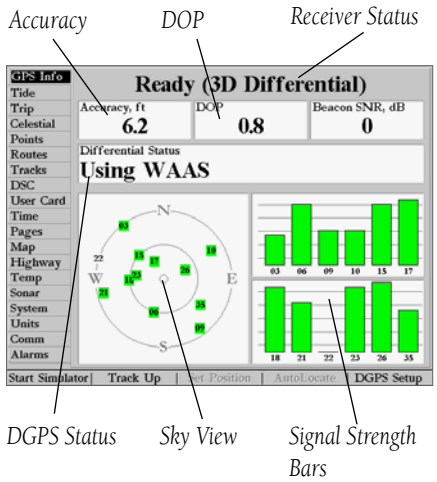
1. Move the **ARROW KEYPAD** UP or DOWN to highlight the tab you want to view. The information for the highlighted tab automatically appears to the right. If you want to highlight any of the tab items, press to the RIGHT on the **ARROW KEYPAD**, then move UP or DOWN to select individual items.
2. Press either the **SOFT KEYS** for additional submenu options or press **ENTER/MARK** to make changes to the highlighted item. Press LEFT on the **ARROW KEYPAD** to get back to the tab list. Press **QUIT** to exit.

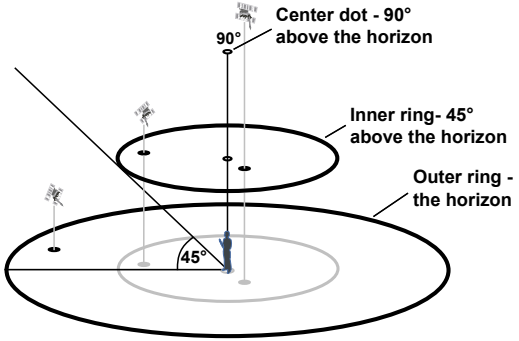
The 16 Main Menu tabs are divided into categories by function:

- GPS Info — shows satellite status, accuracy, initialize position.
- Tide — Tide page shows 24-hour tide chart with levels and times.
- Trip — provides trip speeds, odometers, averages, and trip timers.
- Celestial — Celestial page shows sun/moon time cycles and positions.
- Points — allows you to create, edit, or delete waypoints. See pages 35-40.
- Routes — allows you to create, edit, activate, or delete routes. See pages 45-52.
- Tracks — lets you record a track, define how it is recorded and displayed.
- DSC — allows you to control the optional Digital Selective Calling (DSC) interface.
- User Card — interface control for saving waypoints, routes, and tracks to a data card.
- Time — sets up time format, time zones, and daylight savings.
- Pages — enables main pages to be shut off, turned on, or 'jumped to'.
- Map — sets up Map Page features, zooms, and text size. See pages 20-23.
- Highway — sets up Highway Page features. See pages 33-34.
- Temp — displays a temperature log graph (if equipped with GSD 20).
- Sonar — sets up Sonar Page and Sounder settings (if equipped with GSD 20). See pages 26-28.
- System — defines beeper and simulator, restores setup, and displays system information.
- Units — defines position format, datum, heading, and distance and speed units.
- Comm — interface settings for use with a PC or second device.
- Alarms — sets up system, navigation, and sonar alarms.



Main Menu Page





GPS Info Tab— Provides a visual reference of satellite acquisition, GPS receiver status, and accuracy. When the unit is powered up, a GPS Info window appears after the Warning screen. This window automatically disappears when the unit is ready to navigate. The status information will give you an idea of what the GPS receiver is doing at any given moment. The sky view and signal strength bars give you an indication of what satellites are visible to the receiver and whether or not they are being tracked. The signal strength is shown on a bar graph for each satellite, with the satellite number below. As the receiver locks onto satellites, a signal strength bar appears for each satellite in view, with the appropriate satellite number underneath each bar. The progress of satellite acquisition is shown in three stages:

- No signal strength bars— the receiver is looking for the satellites indicated.
- Light signal strength bars— the receiver has found the satellite(s) and is collecting data.
- Dark (or green) signal strength bars— the receiver has collected the necessary data and the satellite(s) are ready for use.

As soon as the GPS receiver has collected the necessary data from the best satellites in view to calculate a fix, the GPSMAP 2006/2010 status field will indicate a 2D or 3D status. The unit will then update the position, date, and time.

You can use the sky view to help determine if any satellites are being blocked, and whether you have a current position fix (indicated by a '2D','2D Differential','3D', or '3D Differential' in the status field). The sky view shows a bird's-eye view of the position of each satellite relative to the GPS antenna's last known position. The outer circle represents the horizon (north up), the inner circle 45º above the horizon, and the center point a position directly overhead. You can also set the sky view to a 'Track Up' configuration, causing the top of the sky view to align along your current track heading.

WAAS Capability

The GPSMAP 2006/2010 is capable of receiving WAAS (Wide Area Augmentation System) satellite signal input. WAAS is an FAA (Federal Aviation Administration) funded project to improve the overall accuracy and integrity of the GPS signal for aviation use, but land/sea based users may also benefit from this system. At this time, the system is still in the development stage and is not fully operational. There are currently two WAAS satellites that can be received in the U.S.A., one over the Atlantic Ocean and one over the Pacific Ocean, in a geo-stationary orbit over the equator. Effective use of the WAAS satellite signal

may be limited by your geographic location in relation to those satellites, now in developmental service. WAAS satellite signal reception requires an absolute clear view of the sky and works best when there are no nearby obstructions such as buildings, mountains, etc. WAAS satellites will be numbered 33 or higher when viewing the sky view on your GPSMAP 2006/2010. Initial reception of the WAAS signal may take up to 15-20 minutes, then 1-2 minutes afterwards. When WAAS differential correction has been received for GPS satellites (numbers 32 or below), '2D or 3D Differential' will appear in the receiver status. To learn more about the WAAS system, its satellite positions, and current state of development, visit the FAA web site (http://gps.faa.gov).

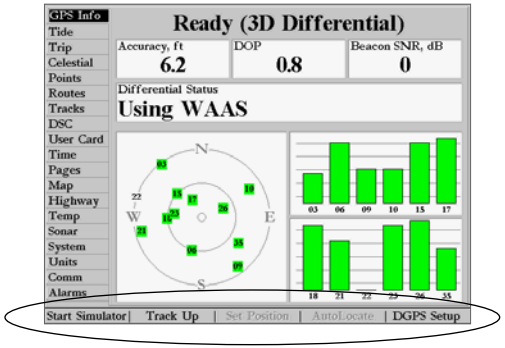
Receiver Status, Accuracy and DOP

Receiver status is indicated at the top field of the page, with the current Accuracy, Dilution Of Precision (DOP), and, if equipped with an optional Differential Beacon receiver, Beacon SNR (Signal Noise Ratio) above the sky view. DOP is an indication of satellite geometry quality measured on a scale of one to ten (lowest numbers the best, highest numbers the poorest). Accuracy uses DOP and other factors to calculate horizontal position accuracy in feet or meters. The status field will show one of the following conditions:

- Waiting for GPS Antenna— the GPS receiver is looking for and collecting data from satellites visible at its last known or initialized position, but has not collected enough data to calculate a fix or a GPS receiver is not connected.
- Ready (2D)— at least three satellites with good geometry have been acquired and a 2 dimensional position fix (latitude and longitude) is being calculated. '2D Differential' will appear when you are receiving DGPS corrections in 2D mode.
- Ready (3D)— at least four satellites with good geometry have been acquired and your position is now being calculated in latitude, longitude and altitude. '3D Differential' will appear when you are receiving DGPS corrections in 3D mode.
- Lost Position from GPS Antenna— the GPS receiver is no longer tracking enough satellites for a 2D or 3D fix or connection has been lost between the GPS receiver and the 2006/2010.
- Simulating— the 2006/2010 is in simulator mode.
- GPS Antenna is Simulating— the 2006/2010 is receiving simulated NMEA input information.

The Differential Receiver status will show one of the following:

Since the 2006/2010 can receive position information from a non-Garmin NMEA source, it is possible to have a "'Ready (2D) or (3D)" status with no satellite data.



GPS Info tab SOFT KEY Options

- None— No optional beacon receiver attached or enabled in the DGPS Setup.
- Searching For WAAS— WAAS is enabled and the GPS receiver is searching for WAAS signal
- Using WAAS— WAAS capability enabled and unit receiving WAAS corrections
- No Beacon Signal— Beacon receiver attached, but not transmitting RTCM data to GPS receiver
- Tuning Beacon— Receiver is tuning manual Beacon frequency
- Receiving Beacon— Unit is receiving Beacon corrections
- Scanning Beacon— Beacon receiver is scanning for available frequency
- Check Wiring— GPS receiver is not making connection with the Beacon receiver.

The Differential SNR (Signal to Noise Ratio) indicates, on a scale to 0-30db with 30db being the best, the strength of the Beacon signal being received. The SNR will depend upon the mounting of your Beacon receiver and the distance from the Beacon transmitting station. The DGPS beacon transmitters are operated by the U.S. Coast Guard (or similar government agency in other countries), which is responsible for their accuracy and maintenance. For DGPS beacon transmitter problems or to find the most updated list of frequencies and coverage areas, contact your local USCG, or see their web site at http://www.navcen.uscg.gov.

The GPSMAP 2006/2010's GPS Info tab provides access to additional **SOFT KEY** options. The available **SOFT KEY** options are

- **Start/Stop Simulator—** toggles the unit simulator on or off.
- **Track Up/North Up—** selects between a north up or track up sky view display for the GPS Info Page only.
- **Set Position—** initializes the receiver graphically on the Map Page to initially help the receiver acquire more quickly. If the simulator is enabled, this field will change to 'Simulator Setup'. See pages 12-13 for instructions on initialization and page 5 for simulator settings.
- **AutoLocate—** allows the GPS receiver to locate your position automatically. This process can take up to five minutes. See pages 12-13 for instructions on initialization.

• **DGPS Setup—** set up of tuning options for a DGPS receiver or enabling/disabling WAAS. The 'DGPS Setup' window contains the fields to select the Differential Source, Beacon tune mode, Frequency, and Bit Rate. Additional data windows display the Beacon SNR and Differential Status. When "Differential Source" is set to 'Auto', the unit can receive WAAS or USCG DGPS Beacon (if available) input. If WAAS is being used and valid USCG DGPS input is detected, WAAS is disabled automatically. Set the option to 'Beacon' if you wish to receive USCG DGPS Beacon information only, 'WAAS' if you wish to receive WAAS information only, or to 'None' if no DGPS input is desired. The additional USCG DGPS Beacon tuning options only appear when "Differential Source" is set to 'Auto' or 'Beacon'. You may have the DGPS beacon receiver (if capable) automatically scan for the DGPS beacon signal or you can manually enter the beacon frequency and bit rate on the unit to tune the beacon receiver.

To have the beacon receiver automatically scan for a frequency:

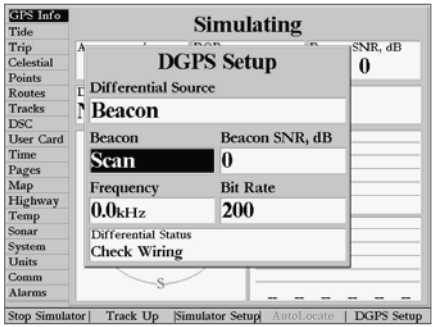
1. With the unit set to 'Auto' or 'Beacon', use the **ARROW KEYPAD** to highlight the "Beacon" field and press **ENTER/MARK**.
2. Highlight 'Scan' and press **ENTER/MARK**. The numbers in the "Frequency" field will change as the unit scans from 284kHz to 325kHz, 200 bit rate, then 100, at 6-second intervals.

To restart the scan:

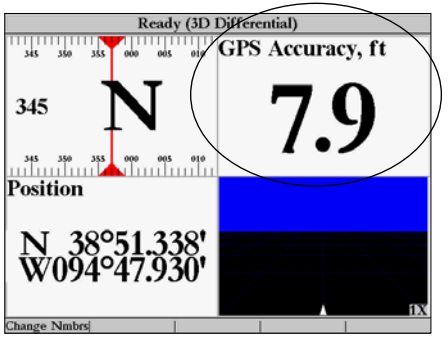
1. Press the 'Restart Scan' **SOFT KEY**.

To manually enter a frequency and bit rate:

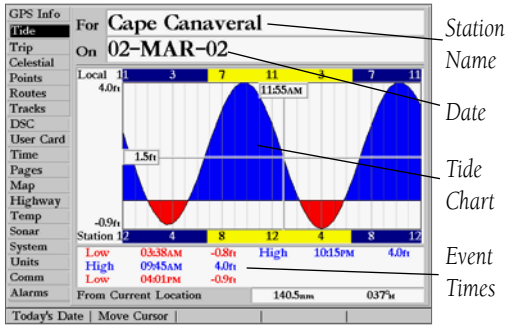
1. With the unit set to 'Auto' or 'Beacon', use the **ARROW KEYPAD** to highlight the "Beacon" field and press **ENTER/MARK**.
2. Highlight 'User' and press **ENTER/MARK**.
3. Highlight the "Frequency" or "Bit Rate" field, press **ENTER/MARK**, then enter a frequency or bit rate. Press **ENTER/MARK** when done.



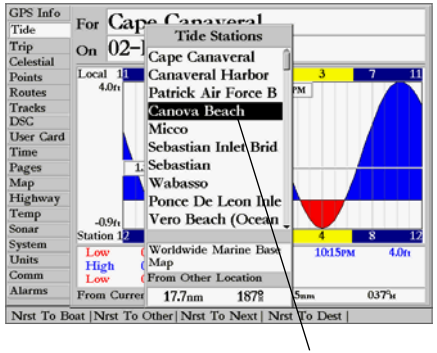
DGPS Setup Window



You may also select 'GPS Accuracy' to display in any data field. See pages 16-18 for instructions changing data fields.



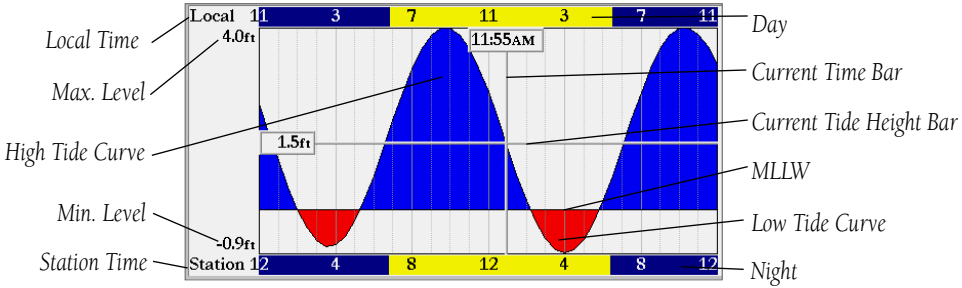
Tide Tab



You can select from a list of nearest stations.

Tide Tab— shows a graphical chart that displays tide station information in a 24-hour span starting at midnight station time. You can choose from different dates and over 3000 tide stations around the USA coastline, Alaska, Hawaii, western Canada, and several of the Caribbean islands.

The top of the page displays the tide station being referenced, with the date below. The top of the chart shows a 24-hour block of local time (LCL) for your position, with the reported station time (STA) appearing at the bottom. Daylight (light or yellow bar) and nighttime (dark or blue bar) show across the time scale, with the time progressing from left to right. (Local time scales and sunrise/sunset info may not be available for a few stations.) The solid, light vertical lines are in 4-hour increments, and the light, dotted vertical lines are in 1-hour increments. A solid, vertical line (with the current time box at the top) indicates the time of day when using current date and intersects the tide graph to show their relation.



The tide curve shows as a shaded area, with higher tides (blue) being taller and lower tides shorter. The solid, horizontal line (with the current tide box on the left) indicates the current tide height. The figure to the left of the line shows the current tide level in the depth units specified on the Units tab. The MLLW appears as a solid, horizontal line near the bottom of the chart (This line only appears if the tide ranges to the zero value or below). Tides curves below MLLW appear in red on color models. The numbers directly below/above 'LCL' and 'STA' indicate the maximum/minimum levels, respectively. The data fields below the chart indicate event times and levels at which the tide changes starting in the upper left field, going downward, then to the upper right and down again.

To select the nearest tide station from your current location:

1. From the "Tide" tab, highlight the 'At' field and press **ENTER/MARK**.
2. Highlight the desired station of the list and press **ENTER/MARK** twice.

If you are not within range of a tide station, you will see a message "None Found". Use the 'Nearest To Other' Find option and select a location on the map that is closer to a tide station.

To select a tide station from the map:

1. From the Tide tab, press **FIND**.
2. When the search results appear, press the 'Nrst To Other' **SOFT KEY**.
3. Select a position on the map and press **ENTER/MARK**.
4. A list appears showing the nearest tide stations. Highlight the desired station and press **ENTER/MARK**. Highlight 'Show Chart' and press **ENTER/MARK**. If the "None Found" message appears, repeat steps 1-4 until you find a station.

You may also change the date to see tide charts for other days.

To change the date for the tide chart:

1. Using the **ARROW KEYPAD**, highlight the "On" field and press **ENTER/MARK**.
2. Enter the desired date using the **DATA ENTRY** keys and press **ENTER/MARK**.

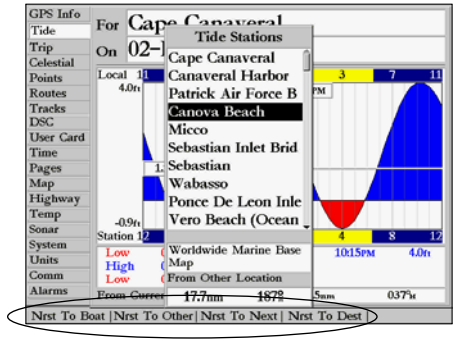
To use the current date:

1. Press the 'Today's Date' **SOFT KEY**.

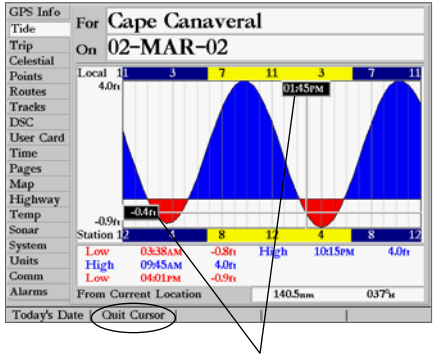
You may move the time bar on the tide chart in 5-minute increments to show tide heights at various times on the chart.

To see tide heights at various times on the chart:

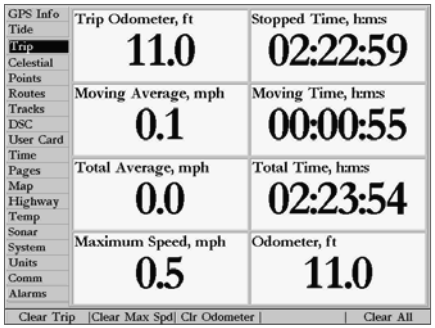
1. Press the 'Move Cursor' **SOFT KEY**.
2. Press LEFT or RIGHT on the **ARROW KEYPAD** to change the time. Press **QUIT** when done or press the 'Quit Cursor' **SOFT KEY**.



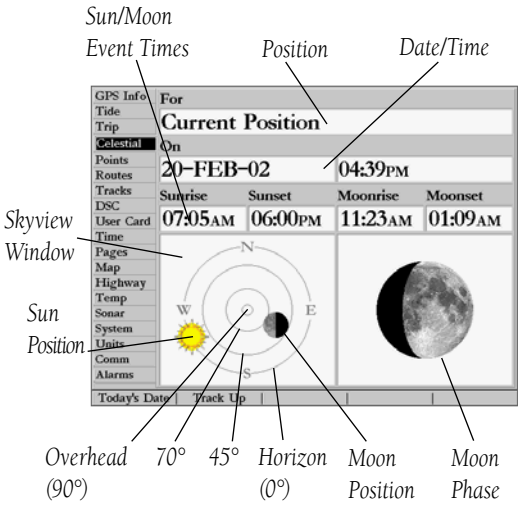
You may automatically search for the nearest station using a variety of search locations..



You may move the cursor to see tide heights at different times. Tide data will show in a black box when in cursor mode.



Trip tab



Trip Tab— displays Trip Odometer, Moving Average speed, Total Average speed, Maximum Speed, Stopped Time, Moving Time, Total Time, and Odometer data. You may reset the data by pressing the 'Clear Trip', 'Clear Max Spd', 'Clear Odometer', or 'Clear All' **SOFT KEY** options.

Celestial Tab— displays celestial data for sun and moon rise/set, moon phase, and approximate skyview location of the sun and moon. The moon phase displays the approximated current visible portion of the moon. You may display this data for your current GPS position or a point location. Also, you may select a different date and time, use the current date, or change the orientation of the skyview.

To choose a position from a waypoint:

1. From the Celestial tab, highlight the 'For' field and press **ENTER/MARK**.
2. From the Find list, highlight 'Waypoints' and press **ENTER/MARK**. Select a waypoint from the 'By Name' or 'Nearest From Current Position' tab lists and press **ENTER/MARK** twice.

To choose a position from the map:

1. From the Celestial tab, highlight the 'For' field and press **ENTER/MARK**.
2. From the Find list highlight 'Other Position' or any category (except Waypoints) and press **ENTER/MARK**. To return to the current position, choose 'Current Position' from the Find list.
3. When the search results appear, press the 'Nearest To Other' **SOFT KEY**, then select a position on the map and press **ENTER/MARK**. When the search results appear, highlight the desired location and press **ENTER/MARK** twice.

The location the unit is using appears in the 'For' field. The timetables displayed are based upon your current time zone. When using a position from another location outside of your time zone, you will need to set the Time Zone for that location under the Time tab on the Main Menu (see page 69).

To change the time or date:

1. From the Celestial tab, use the **ARROW KEYPAD** to highlight the date or time and press **ENTER/MARK**.
2. Enter a new date or time using the **DATA ENTRY** keys and press **ENTER/MARK**.

To use current date and time:

1. From the Celestial tab, press the 'Today's Date' **SOFT KEY**.

To change the skyview orientation to 'Track Up' or 'North Up':

1. From the Celestial tab, press the 'Track Up' or 'North Up' **SOFT KEY** as desired.

Tracks Tab— lets you specify whether or not to record a track log (an electronic 'breadcrumb trail' recording of your path), define how it is recorded, or save track log data for future use. The Tracks Tab also provides an indicator of the memory used for the active track log and options to clear the track memory or start a TracBack route. See pages 42-43 for TracBack information. The Track submenu is divided in two tabs: 'Active' tab and the 'Saved' tab.

The 'Active' tab is for the active log (the log currently being recorded). It displays track memory used and current settings.

The 'Saved' tab displays and manages a list of any saved track logs, allows TracBack activation, and provides a map display of saved logs. The active log stores up to approximately 5,000 track log points, based upon the criteria specified in the Track settings. Up to 20 track logs may be saved in memory, with up to 1000 track log points in each saved log.

For the 'Active' tab, the following settings are available:

- Record Mode— lets you select one of three track recording options:

  Off— No track log will be recorded. Note that selecting the 'Off' setting will prevent you from using the TracBack feature.

  Fill— A track log will be recorded until the track memory is full.

  Wrap— A track log will be continuously recorded, wrapping through the available memory (replacing the oldest track data with new data).

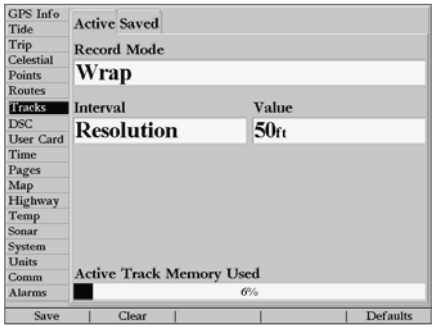
- Interval— Defines the frequency at which the track plot is recorded. Three interval settings are available:

  Distance— Records a track based on a user-defined distance between points.

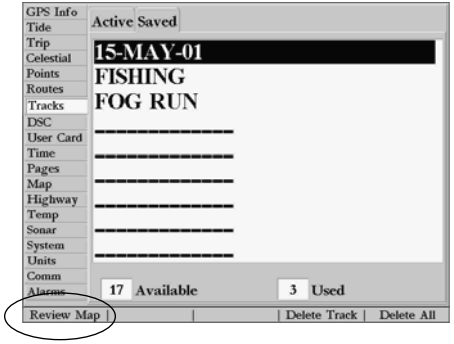
  Time— Records a track plot based on a user-defined time interval.

  Resolution— Records a track plot and automatically optimizea the number and frequency of track points depending on the complexity of the route. The resolution option is the default setting and is recommended for the most efficient use track performance. The distance value (entered in the value field) determines the sensitivity of route changes. A higher value produces a less sensitive or detailed track and a lower value, a more sensitive or detailed track.

- Value— Defines the distance or time used to record the track log.



Active Track Tab



You can use the 'Review On Map' option to display a saved track on a Track Map Page.

The track name automatically appears when highlighted on the 'Saved' list and NAV is pressed.

DSC Tab

For the 'Active' tab, the following **SOFT KEY** options are available:

- Save — allows you to save the current active track log.
- Clear — allows you to clear the active track log currently stored in memory.
- Defaults — restores the Tracks tab settings to original factory settings.

For the 'Saved' tab, the following **SOFT KEY** menu options are available:

- Review Map — displays the saved track log on a Track Map page.
- Delete Track — deletes highlighted saved track log from memory.
- Delete All — deletes all saved track logs from memory.

You may also activate a TracBack from any of the saved tracks on this tab.

To activate a TracBack from the 'Saved' tab list:

1. Using the **ARROW KEYPAD**, highlight the track you wish to use for a TracBack and press **NAV**.
2. The 'Follow <track name>' automatically appears highlighted. Press **ENTER/MARK**.

DSC Tab— allows you to control the optional Digital Selective Calling (DSC) interface. Digital Selective Calling (DSC) uses marine VHF radio and Global Positioning System (GPS) technologies to transmit and receive location information. DSC is used by mariners to assist them in two major areas: Distress Calls and Position Reporting.

An emergency DSC Distress Call allows a vessel in trouble to transmit a substantial amount of information in a single transmission or "call," without the need for voice communication. When any nearby rescuer receives the DSC signal, an alarm sounds and they immediately receive the position of the caller. The rescuer may then choose to navigate (Go To) the caller's position to assist or forward the call on to the Coast Guard. When the Coast Guard receives the call, they can immediately access the caller's information (such as who they are and the type of vessel) in their database while they are in transit to the caller's position.

A non-emergency DSC Position Report allows mariners to exchange and display the positions of one another. Once a DSC position is received, the mariner may choose to create a waypoint or to show the received position on an electronic map.

Anytime a vessel receives a DSC call, they can store that location and quickly navigate to that position using a Go To. This makes DSC a time saver, especially in an emergency situation. In order to use DSC, users must first register their VHF radio with the FCC and receive a Maritime Mobile Service Identity (MMSI) number.

What is a Maritime mobile service identity (MMSI)?

Maritime Mobile Service Identity (MMSI) basically allows a VHF radio to act like a phone. In order to make a "call" on a phone, you first need a phone number to dial. The 9-digit MMSI number acts like a phone number when used in a *Position Report* and as a unique identifier to the Coast Guard when used in an emergency *Distress Call*. In order to to obtain a Maritime Mobile Service Identity (MMSI) number, users must register their VHF radio with the FCC (Form 605). **Garmin does not supply this number!** Information to obtain this number can be found below.

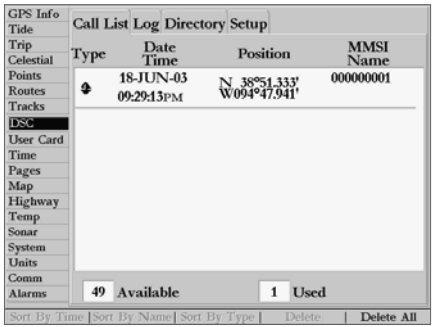
How ARE MMSI assignments obtained?

Non-commercial users (e.g. recreational users who remain in domestic waters and only carry VHF, EPIRB (Emergency Position Indicating Radio Beacons), and Radar) are not required to have a FCC ship station license. The FCC and Coast Guard have authorized some second and third party vendors to assign MMSI numbers. This service is limited to registering recreational vessels only. **To receive information on how to obtain a recreational MMSI number please contact:** http://www.uscg.mil/rescue21/links/mmsi.htm or http://wireless.fcc.gov/marine/.

U.S Non-Federal User: Commercial users, or those who travel outside the U.S. or Canada, must apply for a ship station license or an amendment to a ship station license. **To find out if you require a Ship Station license contact:** http://wireless.fcc.gov/marine/fctsht14.html. If your vessel requires licensing by the FCC you will obtain a MMSI during the application/licensing process when you file FCC Forms 159 and 605.

U.S. Federal User: Federal users can obtain MMSI assignments from their agency radio spectrum management office. These procedures are currently under review by the NTIA (National Telecommunications and Information Administration).

Outside the U.S.: Users can obtain an MMSI assignment from their telecommunications authority or ship registry, often by obtaining or amending their ship station license.



DSC Tab

In Canada: Industry Canada is responsible for assigning MMSI numbers to commercial and recreational vessels. Information is available at the following web site: http://apollo.ic.gc.ca/english/mmsi.html.

For more information regarding MMSI's visit: http://www.navcen.uscg.gov/marcomms/gmdss/mmsi.htm.

How can Garmin help you with DSC?

To receive *Distress Calls* or *Position Reports*, you must have a DSC-equipped chartplotter as well as a VHF radio with DSC support. During normal, non-emergency *Position Report* communication, Channel 70 (156.525 MHz) has been set aside as the VHF/DSC digital call channel. For a *Distress Call*, a mariner presses the MayDay button on their VHF radio. The call transmits on an emergency channel with the MMSI number attached to the call (if you have DSC support). Any DSC-equipped mariner (on sea or land) within range can receive the call.

When the Garmin GPSMAP 2006/2010 is connected to a VHF with DSC support, the GPS unit displays a Call List, Log, and a Directory available to store incoming information received from another user's DSC capable VHF/GPS combination. Basic wiring is required for the Garmin unit and VHF radio to send and receive NMEA data from each other. Refer to the GPSMAP 2006/2010 Installation Guide (190-00228-01).

Distress Call

With a Garmin DSC capable chartplotter/sounder properly connected to a VHF radio with DSC output, you may receive any DSC Distress Call within range. A window will pop up and a message will display when a Distress Call is received. To notify you a Distress Call has been received, an alarm will sound (if enabled). The alarm only sounds on a Distress Call, and it will not sound on a Position Report. Distress Calls are broadcasted to all DSC users in radio range.

Options available from this screen are:

- Show on Map: If you immediately want to see the caller's position they select 'Show on Map'.
- Create Waypoint: If you want to create a waypoint of that posistion, highlight 'Create Waypoint' and press **ENTER/MARK**.

You also have the ability to input the caller's name, if it is known. (NOTE: The caller's name replaces the MMSI number as a reference once it is entered.)

DSC Position Report

The Position Report operates similarly to the Distress Call. Remember this type of contact is like a phone call, but no emergency alarms are set off and the call is specific to the receiver. Position Reports are not broadcasted to all DSC users.

DSC Call List

The DSC Call List displays the current calls received. The GPS can manage up to 50 calls. When 'calls' are received, they are updated constantly to give the most current information, even if the unit is left unattended. Any entry from the Call List can be selected to show an Entry Review.

DSC Log

When DSC calls are received, they are automatically stored in the Log, with the latest call at the top. The unit may store up to 100 logs. Once 100 logs are received, the oldest log file is removed when a new call is received. The Log displays information of call Type, Date/Time, Position, and MMSI/Name. Pressing MENU from this page allows you to 'Sort By Time', 'Sort By Name', 'Sort By (Call) Type', 'Delete' (only after highlighting a particular call), and 'Delete All'.

To Review a Call:

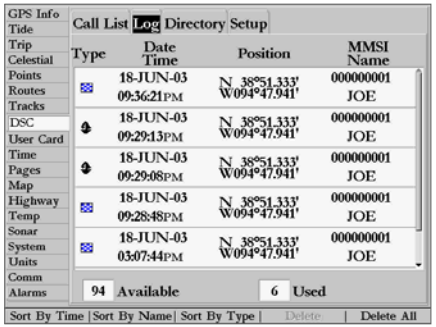
1. From the DSC tab of the Main Menu and the Log or Call List tab highlighted, press DOWN on the **ARROW KEYPAD** until the call you want to review is highlighted.
2. Press **ENTER/MARK** to select the call.

DSC Entry Review

The DSC Entry Review operates similarly to the Distress Page and Position Report Page. This page has the additional option to 'Delete' the displayed call. From the DSC Entry Review, you can 'Delete' the entry, 'Show on map', or 'Create Waypoint' and create a name for the entry.

DSC Directory

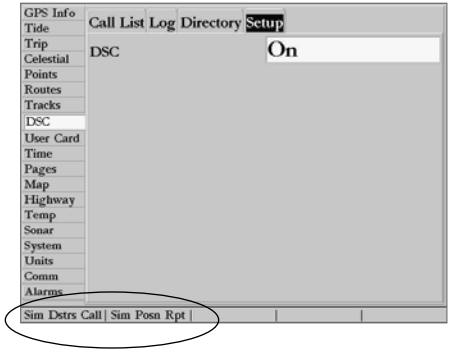
The DSC Directory acts much like a phone book. A user can save up to 50 contacts. The directory lists by Name and MMSI number. Pressing **MENU** from this page allows you to create a 'New Item', 'Delete Item', or 'Delete All'.



DSC Log

DSC Directory

DSC Tab



Choose which simulation you wish to run.

There are two ways to add a new entry into the directory.

To add a new Directory entry:

1. Press the 'New Item' **SOFT KEY** to access the New Directory Window.
2. Or, with the Directory Tab highlighted press the **ARROW KEYPAD** DOWN, highlight an empty field and press **ENTER/MARK** to access the New Directory Item window.

The New Directory Item window allows you to input information of a known contact.

To add the MMSI number, Name, or Comment:

1. Press UP/DOWN on the **ARROW KEYPAD** to highlight the MMSI, Name, or Comment field.

After creating a New Directory Item entry, the name created is attached to that particular MMSI number. If you return to the Log, the new name is displayed under the corresponding MMSI number. Another way to input a name is from the Entry Review page or the DSC Distress Call or DSC Position Report pages. The Name field is only available in the GPS. Names cannot be sent like the MMSI numbers to other DSC users.

DSC Setup

Garmin chartplotters have the ability to turn DSC 'On' or 'Off'. This option is beneficial for users who have more than one GPS chartplotter. If you only want DSC to display on a particular chartplotter, turn DSC off on the remaining Garmin chartplotters that support DSC.

You also have the ability to simulate a Distress Call or a Position Report on this page. This is helpful for practice before connecting to the real system. The Distress Call simulator also helps to check if alarms are working properly.

To run a simulation:

1. Place the chartplotter into simulation (see pg. 5).
2. From the Main Menu, select the 'DSC' tab, then highlight the 'Setup' tab.
3. Use the **SOFT KEYS** to choose which simulation you wish to run.

Using the NAV Button with DSC

The receiver of a Distress Call or Position Report can quickly navigate to the caller using the **NAV** button. Once the call is logged, highlight the entry on the Call List and press the **NAV** button to Go To that MMSI number or the Name of the caller.

User Card Tab— interface control for saving waypoints, routes, and tracks to a data card.When data is saved to a data card, it may be exchanged with other compatible units and Garmin's MapSource PC program.

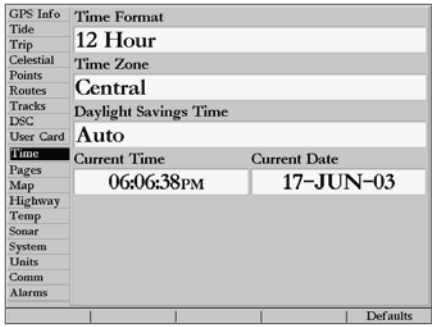
To transfer data to/from a data card:

1. Insert the data card into Slot 1. If there is already user data on the card, highlight 'Manage User Card' and press **ENTER/MARK.** From the 'User Card' tab, select the checkbox next to each type of item you want to transfer.
2. Press the 'To Card' **SOFT KEY** to save the selected items to the data card. Press the 'From Card' **SOFT KEY** to load the selected items from the data card.
3. If transfering data from the card to the unit, press the 'Merge' **SOFT KEY** to combine the selected items with those of your GPS. Press the 'Replace' **SOFT KEY** to overwrite all selected items on your GPS.
4. A 'Transfer Complete' message appears once the data has been transfered. Press **ENTER/MARK**.

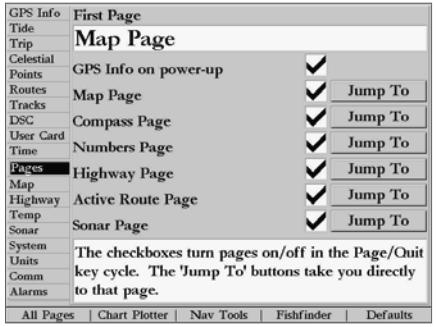
Time Tab— displays the current time and date, allows you to adjust the 12 or 24-hour time format, enter a time zone, and adjust for daylight savings to show correct local time. The unit must be receiving valid NMEA position data to display the proper time and date.The following options are available:

- Time Format— choose from 12 or 24-hour (military) time format.
- Time Zone- choose your correct time zone to show correct local time or enter a UTC Offset. The UTC (also called Greenwich Time) offset is how many hours you are ahead or behind the time line. See the table on page 78 for time offsets.
- Daylight Savings— choose from 'Auto', 'On', or 'Off' to adjust for daylight savings.

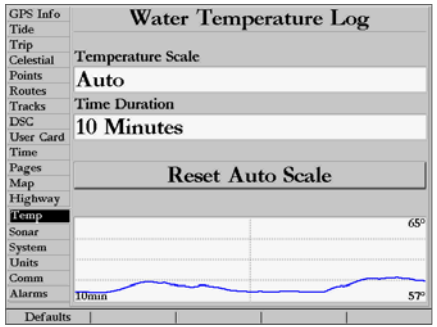
Pages Tab— allows you to turn on/off the GPS Info on power-up or any of the main pages, or 'Jump To' a particular main page. You may also set which page appears first when you power the unit on. (continued)



Time Tab



Pages Tab



Temp Tab

To select/deselect a main page:

1. Use the **ARROW KEYPAD** to highlight the box to the left of the page name. Press **ENTER/MARK** to select/deselect that page. When a page is selected a '✓' appears in the box. You must leave at least one page checked.

You may also choose from one of the following **SOFT KEY** options:

- All Pages— selects all pages.
- Chart Plotter— selects Map page only.
- Nav Tools— selects Compass, Numbers, Highway, and Active Route pages only.
- Defaults— selects all pages.

To 'Jump To' a specific page:

1. Use the **ARROW KEYPAD** to highlight the 'Jump To' option to the right of the desired page and press **ENTER/MARK**.

To set the First Page:

1. Use the **ARROW KEYPAD** to highlight the 'First page' option and press **ENTER/MARK**. Highlight the page you wish to appear first and press **ENTER/MARK**.

Temp (Temperature) Tab — displays the water temperature log (if equipped with a GSD 20 Sonar Module or receiving sonar NMEA input). The graph reads from right to left, so that the most recent temperature measured is displayed on the far right side of the graph. The dotted lines within the graph indicate intervals in the temperature scale and the duration of time.
The following settings are available:

- Temperature Scale — sets the temperature range (in degrees) for displaying the log. Select 'Auto' to have the unit automatically determine the best range, or select a span of 2, 4, 6, 8 or 10 degrees.
- Time Duration — sets how fast or slow the temperature log scrolls; the shorter the time duration, the faster the temperature log scroll. Select a duration from 1 minute to 2.5 hours.
- Reset Auto Scale — resets the scale range for the temperature graph. This is useful when the scale spans a large range due to extreme temperature changes. Only shows when Temp Scale is set to 'Auto'.

System tab— controls system setting for beeper, speed filter, languages, system mode, simulator controls, restores factory settings, and displays system information.

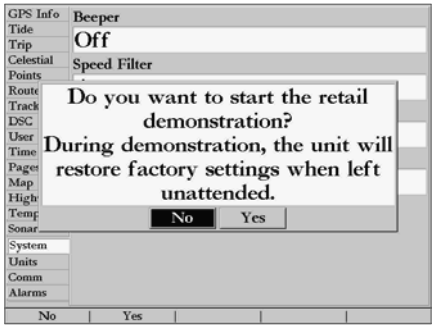
The following settings are available:

- Beeper— controls audible beep. Select from 'Off', 'Alarms Only' (sounds for alarms/messages), 'Key and Alarm' (sounds for key presses and alarms/messages).
- Speed Filter— averages speed-readings. Choose from 'Off', 'Auto' (automatically controls filtering), or 'On' (allows you to enter a value from 1 to 255 seconds).
- Language— select from various languages for the unit's on-screen display.
- System Mode— select from 'Normal' (Normal Navigation) or 'Simulator' (For practice ONLY)
  - Current Time/Date*— lets you enter a current time and date.
  - Track Control*— 'Auto Track' will steer to the current navigation point. 'User Track' allows you to enter a heading in the 'Track' field.
  - Track*— lets you enter a heading.
  - Speed*— lets you enter a speed.
  - Transducer*— lets you choose between a simulated Depth Only, Temp, or Temp/Speed transducer.
  - Set Position*— **SOFT KEY** option allows to set your location while in simulator mode. Press the 'Set Position' **SOFT KEY**, then point to the desired position on the map and press **ENTER/MARK**.

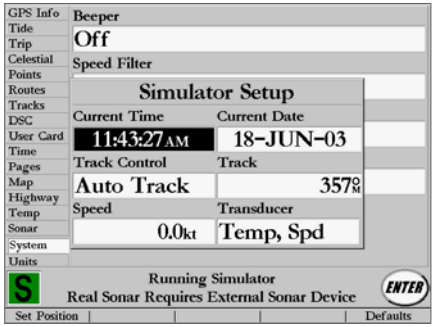
* These fields will only appear in the 'Simulator Setup' window when the unit is in Simulator Setup Mode.

The following **SOFT KEY** options are also available from the 'System' tab:

- System Info— displays the unit's software, basemap version and electronic serial number.
- Setup Simulator— displays simulator options (only available when in simulator mode) See page 5.
- Factory Setup— restores all settings to Garmin's original setup values for the entire unit.
- Defaults— restores settings on System page to default values.



Retail Demonstration Mode will restore the factory settings to the unit if left unattended for over 2 minutes. This mode should be used for display purposes. User waypoints will NOT be deleted.



System Tab- Simulator Mode Setup

Units Tab

Units Tab— defines Position Format, Map Datum, Heading, Distance, Speed, Altitude, Depth, and Temperature.

The following settings are available:

- Position Format— is used to change the coordinate system in which a given position reading is displayed. You should only change the position format if you are using a map or chart that specifies a different position format or wish to use a format you are familiar with. The default format is latitude and longitude in degrees, minutes, and thousandths of a minute (hddd°mm.mmm'). The following additional formats are available:
  - hddd.ddddd°— latitude/longitude in decimal degrees only
  - hddd°mm'ss.s"— latitude/longitude in degrees, minutes, seconds
  - UTM/UPS— Universal Transverse Mercator / Universal Polar Stereographic grids
  - British Grid • Dutch Grid • Finnish KKJ27 • German Grid • India Zones
  - Irish Grid • Loran TD • Maidenhead • MGRS • New Zealand
  - Qatar Grid • RT90 • Swedish Grid • Swiss Grid • Taiwan Grid
  - User Grid • W Malayan RSO

For additional information on Loran TD setup, see pages 74-75.

- Map Datum— allows you to manually select the datum reference used to determine a given position. The default setting is 'WGS 84'. The unit automatically chooses the best datum depending upon your chosen position format. Datums are used to describe geographic positions for surveying, mapping, and navigation and are not actual maps built in the unit. Although over 100 datums are available (as listed on pages 81-82), you should only change the datum if you are using a map or chart that specifies a different datum.

WARNING: Selecting the wrong map datum can result in substantial position errors. When in doubt, use the default WGS 84 datum for best overall performance.

- Heading— lets you select the reference used in calculating heading information. You can select from 'Auto Mag Var', 'True', 'Grid', and 'User Mag Var'. 'Auto Mag Var' provides magnetic north heading references that are automatically determined from your current position. 'True' provides

headings based upon a true north reference. 'Grid' provides headings based on a grid north reference (and is used in conjunction with the grid position formats listed on page 72). 'User Mag Var' allows you to specify the magnetic variation at your current position and provides magnetic north heading references based upon the variation you enter.

To enter a user defined magnetic variation:

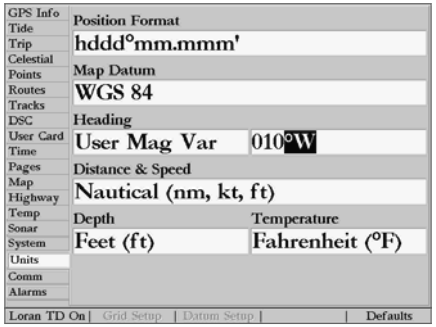
1. With the 'Heading' field set to 'User Mag Var', highlight the heading reference field (immediately to the right) and press **ENTER/MARK**.
2. Use the **DATA ENTRY** keys to enter the magnetic variation at your current position and press **ENTER/MARK**.

WARNING: If 'User Mag Var' is selected, you must periodically update the magnetic variation as your position changes. Using this setting, the unit will not automatically calculate and update the magnetic variation at your present position. Failure to update this setting may result in substantial differences between the information displayed on your unit and external references, such as a magnetic compass.

- Distance, Speed and Altitude— lets you select the desired units of measure for distance, speed and altitude readouts in 'Nautical' (nm, kt, ft), 'Statute' (mi, mh, ft), or 'Metric' (km, kh, m) terms.
- Depth— lets you select the desired units of measure for depth in Feet (ft), Fathoms (fa), or Meters (m).
- Temperature— lets you select the desired units of measure for temperature in Fahrenheit (°F) or Celsius (°C).

The Units tab settings will affect how navigation information is displayed on the GPSMAP 2006/2010. The 'User' datum is based on a WGS-84-Local datum and is an advanced feature for unlisted or custom datums. Setup is available for each by pressing the appropriate SOFT KEY option. To learn more, check your local library or the world wide web for educational materials on datums and coordinate systems. When in doubt, seek assistance.

If you are using a map or chart in conjunction with your GPS, make sure the settings under the 'Units' tab of the GPSMAP 2006/2010 match that of the map or chart. This information should be displayed somewhere on the map or chart. If the information is not present, contact the map or chart maker to determine what position format, datum, heading and units of measure are being used for the map or chart.



You may manually enter a magnetic variation.

Loran TD System

LORAN C is a radio navigation aid operated and maintained in the United States by the United States Coast Guard. The name LORAN is an acronym for "LOng RAnge Navigation". The LORAN system covers the entire United States and the U.S. Coastal Confluence Zone. From the perspective of a mariner, the system is used for ocean and coastal navigation. It can be used as a supplemental system for harbor and harbor approach navigation, and it is used for inland navigation by recreational vehicles.

LORAN TD Feature

The LORAN TD (Time Delay) feature eases the transition from using LORAN to using GPS. The GPSMAP unit automatically converts GPS coordinates to LORAN TDs for those who have a collection of LORAN fixes for favorite fishing spots and other waypoints recorded as TDs. You can display your position as a TD or enter waypoints as TDs. The accuracy to be expected from this conversion is approximately 30 meters. When the unit is placed in the LORAN TD format mode, it simulates the operation of a LORAN receiver. Position coordinates may be displayed as TDs, and all navigation functions may be used as if the unit was actually receiving LORAN signals.

Using the LORAN TD Format

When creating new waypoints using LORAN TD coordinates, you must set the correct LORAN chain number and secondary stations in the Setup TD field before storing the waypoint. After the waypoint is stored in unit memory, it will always reference the LORAN chain number and secondary stations currently selected in the Setup TD field. If you enter a different LORAN chain number, change the secondary stations or offsets in the Setup TD field, the active waypoint information will reflect those changes. Since the GPSMAP unit does not rely on the LORAN signal for navigation, it can reference a different GRI chain and/or secondary stations and still navigate to the location stored in memory.

The LORAN Position Format field is located under the Units tab in the Main Menu. The 'LORAN TD Setup' window contains the fields to select the Loran GRI-Chain Number, Primary and Secondary Stations, and TD Offsets.

To setup Loran TD from the Main Menu:

1. Using the **ARROW KEYPAD**, highlight the 'Units' tab and then the 'Position Format' field press **ENTER/MARK**. You may also press the 'Loran TD On' **SOFT KEY** from the 'Units' tab. (If you use 'Loran TD On', skip to step 3.)
2. Highlight 'Loran TD', press **ENTER/MARK**, and then press the 'Grid Setup' **SOFT KEY**.
3. To change the settings of any of the five fields, highlight the field, and press **ENTER/MARK**. Select/enter the desired setting using the **DATA ENTRY** keys and press **ENTER/MARK**.
4. When done, press the **QUIT** key to return to the Main Menu.
5. To return to the previous position format, press the 'Loran TD Off' **SOFT KEY**.

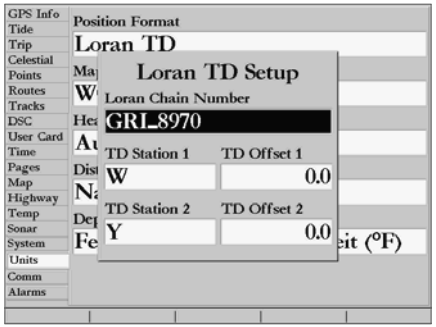
If the active GRI Chain, secondary stations, or offsets have been changed since the waypoint was created, the waypoint will now reference the active GRI-chain and secondary stations and adjust the TD coordinates accordingly. Remember that the GPS is not relying on the LORAN signal for navigation and actually converts the TD coordinate to a useful LAT/LON coordinate (in the background) before storing the waypoint to memory or using it for navigation. Because of this the unit can navigate to a TD coordinate anywhere in the world.

For more information on Loran TDs, you may download Garmin's "Loran TD Position Format Handbook" from the Garmin web site at http://www.garmin.com/support/userManual.jsp.

Comm (Communications) tab— lets you control the input/output format used when connecting your GPSMAP 2006/2010 to external NMEA devices, a personal computer, another Garmin GPSMAP 2006/2010, etc. See the GPMSMAP 2006/2010 Installation Guide for wiring instructions. You can download a copy of Garmin's proprietary communication protocol from the Help and Support section of our web site at www.garmin.com. The unit supports two user input/output ports. Individual Port settings are:

Port 1—

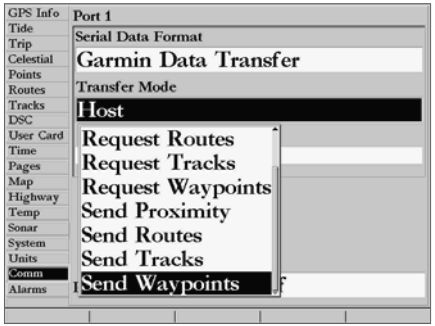
- Garmin Data Transfer— the proprietary format used to upload/download MapSource data, exchange waypoint, route, track, almanac, and proximity data with a PC or another Garmin GPSMAP 2006/2010. When you select 'Garmin Data Transfer', there are 11 Transfer Modes to choose from: Host, Request Almanac, Request Proximity, Request Routes, Request Tracks, Request Waypoints, Send Almanac, Send Proximity, Send Routes, Send Tracks, and Send Waypoints.



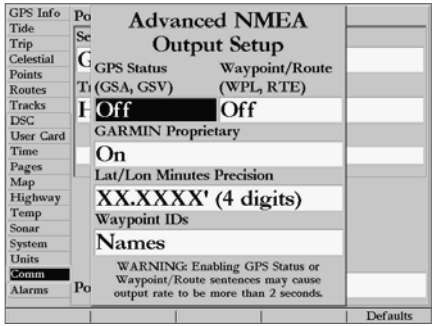
Loran TD Setup Page

You may use one of Garmin's MapSource products for trip and waypoint manager functions to transfer waypoints, routes, and tracks between your GPS(s) and PC.

There are also numerous 3rd party programs on the market that also work with our units. Garmin has published the communication protocol for interfacing with our units on the Garmin web site at http://www.garmin.com/support/commProtocol.html. This enables software developers to add communication capability with our units to their programs. Garmin mapping units use a proprietary map protocol, which is not available for public release. It is not possible to load 3rd party maps to Garmin units. Since Garmin does not develop or support 3rd party programs, any compatibility and functionality inquiries for should be directed to the maker of that particular program.



When transferring data between two Garmin units, be sure to always set one to 'Host' and use the other unit to either Send or Request the desired data.



NMEA Sentence Output (NMEA Version 2.30 compliant)*

Always transmitted: GPRMC, GPGGA, GPGLL, GPBOD, GPBWC, GPVTG, GPXTE, GPRMB

Switchable sentences: GPGSA, GPGSV, GPWPL, GPRTE

Garmin Proprietary: PGRME, PGRMZ, PGRMM

- NMEA In/NMEA Out— supports the output of standard NMEA 0183 version 2.3* data, and sonar NMEA input support for the DBT, DPT, MTW, and VHW sentences. (See page 86.)
- None— provides no interfacing capabilities.

Port 2—

- NMEA On/NMEA Off— supports the output of standard NMEA 0183 version 2.3* data, and sonar NMEA input support for the DBT, DPT, MTW and VHW sentences. (See page 86.)

* Units with software version 5.20 and higher will use NMEA 0183 version 3.01.

To select an input/output format:

1. Highlight the 'Serial Data Format'or 'Port 2 NMEA' field and press **ENTER/MARK**.
2. Use the **ARROW KEYPAD** to select the desired setting and press **ENTER/MARK**.

To select a transfer mode:

1. Use the **ARROW KEYPAD** to select 'Garmin Data Transfer' in the 'Serial Data Format' field.
2. Highlight the 'Transfer Mode' field and press **ENTER/MARK**.
3. Use the **ARROW KEYPAD** to select the desired setting and press **ENTER/MARK**.

To restore the Serial Data Format settings back to the default 'Garmin Data Transfer':

1. From the Comm tab, press the 'Defaults' **SOFT KEY**.

Advanced NMEA Output Setup

The GPSMAP 2006/2010 NMEA data transmission can be customized to change the precision of the Lat/Lon minutes, set up the waypoint IDs, and keep the output rate at two seconds. If the unit is set up to output all of the available NMEA sentences, the output rate may exceed two seconds.The 'Advanced NMEA Output Setup' page will allow you to turn On/Off the GPS Status (GSA, GSV), Waypoint/Route (WPL, RTE) and the Garmin Proprietary sentences.

Advanced NMEA Output Setup:

1. Press the 'NMEA Setup' **SOFT KEY** located along the bottom of the screen to activate the 'Advanced NMEA Output Setup' page.
2. To turn a field On/Off, place the highlight over that field and press **ENTER/MARK**. Make a selection and press **ENTER/MARK** again to accept the selection.

Alarms Tab— allows you to define the alarm setting for Anchor Drag, Arrival, Off Course, Clock, Shallow Water, Deep Water, Battery, DGPS, and Accuracy.

System Alarms:

- Clock— provides an alarm for the system clock. Enter a time in the time field and turn the alarm on and off from the control field menu. Remember to enter alarm times in the same time format (UTC or local) you're using for your system. The unit must be on for the clock alarm to work.
- Battery— sets an alarm to sound when the battery is reaching a critical state of discharge.
- Differential GPS (DGPS) — DGPS alarm will sound when the unit loses a differential fix.
- Accuracy — alarm will sound when the GPS position accuracy falls outside the user-set value.

Nav Alarms:

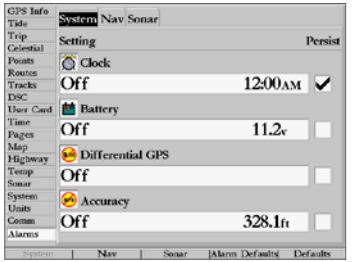
- Anchor Drag— sets an alarm to sound when you've exceeded a specified drift distance. Enter a value in the distance field and use the control field to turn the alarm on and off.
- Arrival— sets an alarm to sound when you're a specified distance or time away from a destination waypoint. Enter a distance radius or time for sounding the alarm and use the control field to set the alarm to 'Off', 'Dist' (Distance), or 'Time'.
- Off Course— sets an alarm to sound when you're off a desired course by a specified distance. Enter a distance in the distance field and use the control field to turn the off course alarm on and off.

Sonar Alarms:

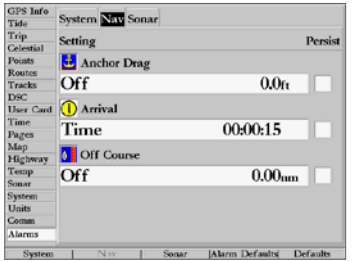
- Shallow Water/Deep Water— set alarms to sound when you enter an area of specified depth that is too shallow and/or too deep. Enter a depth in the distance fields and use the control fields to turn the alarms on and off. You must be receiving sonar NMEA data (pg. 76) for this function to work.
- Water Temperature— sets an alarm to sound when the transducer reports a temperature above, below, inside or outside the specified value.
- Fish— alarm sounds when unit detects a fish of the specified size symbol(s).

To set an alarm:

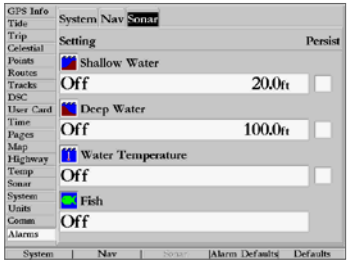
1. Use the **ARROW KEYPAD** to highlight the desired 'Alarm tab'. Then highlight the field below the alarm name you wish activate and press **ENTER/MARK**.
2. Change the mode to 'On' (Dist or Time for the 'Arrival' alarm) and press **ENTER/MARK**.
3. Highlight the next field to the right and press **ENTER/MARK**. Then enter the desired settings and press **ENTER/MARK** to finish.
4. To have an alarm sound until it is acknowledged, place a check mark in the 'Persist' field. Press **ENTER/MARK** to acknowledge an alarm.



Alarms Tab - System Alarms



Alarms Tab - Nav Alarms



Alarms Tab - Sonar Alarms

Appendix A
Time Offsets

A simple way to determine your local time offset is how many hours you are behind or ahead of UTC (also called 'Greenwich' or 'zulu' time).
Example: EST (Eastern Standard Time) is 5 hours behind UTC, so your offset would be -5. Adding one hour for daylight savings would make EDT (Eastern Daylight Time) - 4. Subtract an hour for each time zone as you travel west.

Offsets for Continental U.S. would be:

EST	*-5*	*EDT*	*-4*
CST	*-6*	*CDT*	*-5*
MST	*-7*	*MDT*	*-6*
PST	*-8*	*PDT*	*-7*

The chart below gives an approximate UTC (Universal Time Coordinate) time offset for the various longitudinal zones. Check with local charts for more detailed information. If you are in daylight savings time, add one hour to the offset.

Longitudinal Zone	Offset	Longitudinal Zone	Offset
W180.0º to W172.5º	-12	E007.5º to E022.5º	+1
W172.5º to W157.5º	-11	E022.5º to E037.5º	+2
W157.5º to W142.5º	-10	E037.5º to E052.5º	+3
W142.5º to W127.5º	-9	E052.5º to E067.5º	+4
W127.5º to W112.5º	-8	E067.5º to E082.5º	+5
W112.5º to W097.5º	-7	E082.5º to E097.5º	+6
W097.5º to W082.5º	-6	E097.5º to E112.5º	+7
W082.5º to W067.5º	-5	E112.5º to E127.5º	+8
W067.5º to W052.5º	-4	E127.5º to E142.5º	+9
W052.5º to W037.5º	-3	E142.5º to E157.5º	+10
W037.5º to W022.5º	-2	E157.5º to E172.5º	+11
W022.5º to W007.5º	-1	E172.5º to E180.0º	+12
W007.5º to E007.5º	0		

The GPSMAP 2006/2010 uses an on-screen pop-up message system to alert you to unit operating characteristics. Press the **ENTER/MARK** key to acknowledge and return to the page you were viewing.

Accuracy Alarm— The GPS accuracy has fallen outside of user-set value.

Alarm Clock— The alarm clock has sounded.

Alarm Voltage Too High— Specified voltage is too high, set to a lower value.

Alarm Voltage Too Low— Specified voltage is too low, set to a higher value.

Anchor Drag Alarm— You have drifted out of the specified distance range.

Approaching Waypoint— You are a specified alarm distance from a destination waypoint.

Arrival At Waypoint— You have arrived at the destination waypoint.

Battery Alarm—Specified amount of input voltage has been detected.

Can't Unlock Maps— Data on data card is not unlocked for the unit. Contact your dealer or Garmin.

Database Error— Tried to use an invalid or unavailable database point.

Deep Water Alarm —Specified deep water alarm depth has been detected below the transducer.

Differential (DGPS) GPS Alarm —Unit has lost Differential GPS (DGPS) fix.

External Sonar Error Software Update Needed —GSD 20 is attached to unit and requires software update. See www.garmin.com for software updates or contact Garmin.

External Sonar Connection Lost — Communication problems betwwen the GSD 20 and unit. Check wiring connections. Contact your dealer or Garmin if problem persists.

Fish Alarm —Sonar has detected a fish of the specified size symbols(s).

GPS Antenna Failure, Antenna Needs Repair— GPS receiver problem. Contact your dealer or Garmin.

GPS Antenna Has Lost Its Stored Settings— GPS receiver problem. Contact your dealer or Garmin.

Lost Position From GPS Antenna— The unit has lost satellite signals. Check antenna connections or try moving to a location with a clear view of the sky.

No DGPS Position— No differential correction data is available or not enough data is available to compute a DGPS position.

Off Course Alarm— You have exceeded the specified off-course distance.

Proximity Alarm— You have entered the alarm radius for the proximity waypoint indicated.

Proximity Alarm Memory is Full— You have used all ten proximity waypoints.

Proximity Overlaps Another Proximity Waypoint—The alarm radius specified overlaps the area specified for another proximity waypoint. Adjust distance.

Route Already Exists: <route name>— You have entered a route name that already exists in memory. Modify route name or delete the previous route name.

Route Is Full— You have attempted to add more than 254 points to a route. Reduce number of points or create second route.

Route Memory Is Full Can't Create Route— Maximum amount of 254 routes already in unit memory and no additional routes can be added until existing ones are removed.

Route Truncated— Uploaded route from other device has more than 254 points or is incomplete.

Running Simulator Real Sonar Requires External Sonar Device— Unit is in simulator (practice) mode.

Shallow Water Alarm — Specified shallow water alarm depth has been detected below the transducer.

Track Already Exists: <track name>— You have entered a saved track name that already exists in memory. Modify track name or delete the previous track name.

Track Memory Is Full Can't Create Track— Track log memory is full. No additional track log data can be stored without deleting old data to create memory space.

Track Truncated— A complete upload track will not fit into memory. The oldest track log points were deleted to make space for the most recent data.

Transfer Complete— The unit has finished uploading/downloading information to the connected device.

Water Temperature Alarm— Sonar has reported a temperature above, below, inside or outside the specified value.

Waypoint Already Exists: <waypoint name>— You have entered a waypoint name that already exists in memory. Modify waypoint name or delete the previous waypoint name.

Waypoint Memory Is Full Can't Create Waypoint— You have used all 3000 waypoints available. Delete unwanted waypoints to make space for new entries.

Appendix C
Map Datums

Adindan	Adindan- Ethiopia, Mali, Senegal, Sudan
Afgooye	Afgooye- Somalia
AIN EL ABD ‘70	AIN EL ANBD 1970- Bahrain Island, Saudi Arabia
Anna 1 Ast ‘65	Anna 1 Astro ‘65- Cocos I.
ARC 1950	ARC 1950- Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia, Zimbabwe
ARC 1960	Kenya, Tanzania
Ascnsn Isld ‘58	Ascension Island ‘58- Ascension Island
Astro B4 Sorol	Sorol Atoll- Tern Island
Astro Bcn “E”	Astro Beacon “E”- Iwo Jima
Astro Dos 71/4	Astro Dos 71/4- St. Helena
Astr Stn ‘52	Astronomic Stn ‘52- Marcus Island
Aus Geod ‘66	Australian Geod ‘66- Australia, Tasmania Island
Aus Geod ‘84	Australian Geod ‘84- Australia, Tasmania Island
Austria	Austria
Bellevue (IGN)	Efate and Erromango Islands
Bermuda 1957	Bermuda 1957- Bermuda Islands
Bogata Observ	Bogata Obsrvatry- Colombia
Campo Inchspe	Campo Inchauspe- Argentina
Canton Ast ‘66	Canton Astro 1966- Phoenix Islands
Cape	Cape- South Africa
Cape Canavrl	Cape Canaveral- Florida, Bahama Islands
Carthage	Carthage- Tunisia
CH-1903	CH 1903- Switzerland
Chatham 1971	Chatham 1971- Chatham Island
Chua Astro	Chua Astro- Paraguay
Corrego Alegr	Corrego Alegre- Brazil
Djakarta	Djakarta (Batavia)- Sumatra Island (Indonesia)
Dos 1968	Dos 1968- Gizo Island (New Georgia Islands)
Dutch	Dutch
Easter Isld 67	Easter Island 1967
European 1950	European 1950- Austria, Belgium, Denmark, inland, France, Germany, Gibraltar, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland
European 1979	European 1979- Austria, Finland, Netherlands, Norway, Spain, Sweden, Switzerland
Finland Hayfrd	Finland Hayford- Finland
Gandajika Base	Gandajika Base- Republic of Maldives
GDA	Geocentric Datum of Australia
Geod Datm ‘49	Geodetic Datum ‘49-New Zealand
Guam 1963	Guam 1963- Guam Island
Gux 1 Astro	Guadalcanal Island
Hjorsey 1955	Hjorsey 1955- Iceland
Hong Kong ‘63	Hong Kong
Hu-Tzu-Shan	Taiwan
Indian Bngldsh	Indian- Bangladesh, India, Nepal
Indian Thailand	Indian- Thailand, Vietnam
Indonesia 74	Indonesia 1974-Indonesia
Ireland 1965	Ireland 1965- Ireland
ISTS 073 Astro	ISTS 073 ASTRO ‘69- Diego Garcia
Johnston Island	Johnston Island Kandawala Kandawala- Sri Lanka
Kerguelen Islnd	Kerguelen Island

Note that the GPSMAP 2006/2010’s built-in world-wide basemap is valid to 75º north and 60º south of latitude.

The ‘User’ datum is based on a WGS-84-Local datum and is an advanced feature for unlisted or custom datums. To learn more, check your local library or on the world wide web for educational materials on datums and coordinate systems.

Appendix C
Map Datums

Kertau 1948	West Malaysia, Singapore
L. C. 5 Astro	Cayman Brac Island
Liberia 1964	Liberia 1964- Liberia
Luzon Mindanao	Luzon- Mindanao Island
Luzon Philippine	Luzon- Philippines (excluding Mindanao Isl.)
Mahe 1971	Mahe 1971- Mahe Island
Marco Astro	Marco Astro- Salvage Isl.
Massawa	Massawa- Eritrea (Ethiopia)
Merchich	Merchich- Morocco
Midway Ast '61	Midway Astro '61- Midway
Minna	Minna- Nigeria
NAD27 Alaska	North American 1927- Alaska
NAD27 Bahamas	North American 1927- Bahamas (excluding San Salvador Island)
NAD27 Canada	North American 1927- Canada and Newfoundland
NAD27 Canal Zone	North Am. 1927- Canal Zone
NAD27 Caribbn	North American 1927- Caribbean (Barbados, Caicos Islands, Cuba, Dom. Rep., Grd. Cayman, Jamaica, Leeward and Turks Islands)
NAD27 Central	North American 1927-Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua)
NAD27 CONUS	North Am. 1927- Mean Value (CONUS- Continental US)
NAD27 Cuba	North American 1927- Cuba
NAD27 Grnland	North American 1927- Greenland (Hayes Peninsula)
NAD27 Mexico	N. American 1927- Mexico
NAD27 San Sal	North American 1927- San Salvador Island
NAD83	North American 1983- Alaska, Canada, Central America, CONUS, Mexico
Nhrwn Masirah	Nahrwn- Masirah Island (Oman)
Nhrwn Saudi A	Nahrwn- Saudi Arabia
Nhrwn United A	Nahrwn- United Arab Emirates
Naparima BWI	Naparima BWI- Trinidad and Tobago
Obsrvtorio '66	Observatorio 1966- Corvo and Flores Islands (Azores)
Old Egyptian	Old Egyptian- Egypt
Old Hawaiian	Old Hawaiian- Mean Value
Oman	Oman- Oman
Ord Srvy GB	Old Survey Grt Britn- England, Isle of Man, Scotland, Shetland Isl., Wales
Pico De Las Nv	Canary Islands
Potsdam	Potsdam-Germany
Ptcairn Ast '67	Pitcairn Astro '67- Pitcairn
Prov S Am '56	Prov So Amricn '56- Bolivia, Chile,Colombia, Ecuador, Guyana, Peru, Venezuela
Prov S Chln '63	So Chilean '63- S. Chile
Puerto Rico	Puerto Rico & Virgin Isl.
Qatar	Qatar National- QatarQornoq Qornoq- South Greenland
Reunion	Reunion- Mascarene Island
Rome 1940	Rome 1940- Sardinia Isl.
RT 90	Sweden
Santo (Dos)	Santo (Dos)- Espirito Santo
Sao Braz	Sao Braz- Sao Miguel, Santa Maria Islands
Sapper Hill '43	Sapper Hill 1943- East Falkland Island
Schwarzeck	Schwarzeck- Namibia
Sth Amrcn '69	S. American '69- Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Venezuela, Trin/Tobago
South Asia	South Asia- Singapore
SE Base	Southeast Base- Porto Santo and Madiera Islands
SW Base	Southwest Base- Faial, Graciosa, Pico, Sao Jorge and Terceira Islands
Timbalai 1948	Timbalai 1948- Brunei and E. Malaysia (Sarawak and Sabah)
Tokyo	Tokyo- Japan, Korea, Okinawa
User	User-defined custom datum
Tristan Ast '68	Tristan Astro 1968- Tristan da Cunha
Viti Levu 1916	Viti Levu 1916- Viti Levu/Fiji Islands
Wake-Eniwetok	Wake-Eniwetok- Marshall
WGS 72	World Geodetic System 72
WGS 84	World Geodetic System 84
Zanderij	Zanderij- Surinam

Appendix D
Navigation Terms

Avg Speed— The average of all second-by-second speed readings since last reset.

Bearing (BRG)— The compass direction from your present position to a destination waypoint.

Course— The desired course between the active 'from' and 'to' waypoints.

Distance (Dist)— The 'great circle' distance from present position to a destination waypoint.

Distance to Dest— The 'great circle' distance from present position to a Go To destination, or the final waypoint in a route.

Distance to Next— The 'great circle' distance from present position to a Go To destination, or the next waypoint in a route.

Elevation— Height above mean sea level (MSL).

ETA— Estimate Time of Arrival. The estimated time you will reach your destination waypoint, based on current speed and track.

ETA at Dest— The estimated time you will reach a Go To destination, or the final waypoint in a route.

ETA at Next— The estimated time you will reach a Go To destination, or the next waypoint in a route.

Fuel— The fuel required to travel from present position to the indicated route waypoint.

Leg Distance— The distance between two route waypoints.

Leg Fuel— The fuel required to travel from a route waypoint to the next waypoint (in sequence) in the route.

Leg Time— The time required to travel from a route waypoint to the next waypoint (in sequence) in the route.

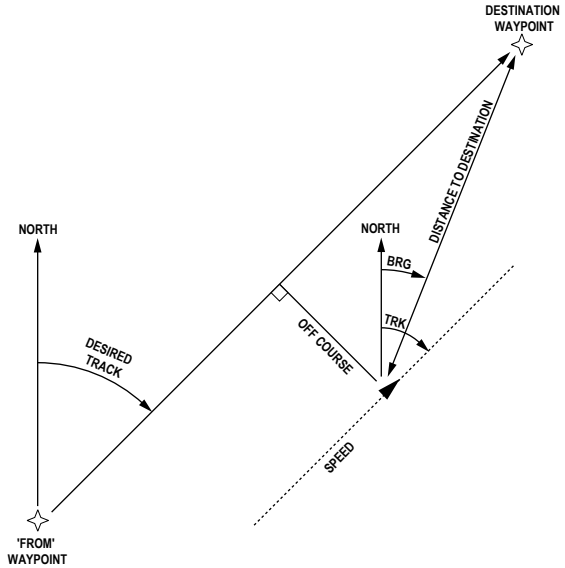
Max Speed— The maximum second-by-second speed recorded since last reset.

Moving Average Speed— Average speed while the unit is moving.

Moving Trip Timer— Total time the unit has been moving.

Odometer— A running tally of distance travelled, based upon the distance between second-by-second position readings.

Off Course— The distance you are off a desired course in either direction, left or right. Also referred to as 'cross-track error' or 'course error'.



Speed— The current velocity at which you are travelling, relative to a ground position. Also referred to as 'ground speed'.

Time To— The estimated time required to reach a Go To destination, or the next waypoint in a route. Also referred to as 'estimated time en route'.

Time to Dest— The estimated time required to reach a Go To destination, or the final waypoint in a route.

Time to Next— The estimated time required to reach a Go To destination, or the next waypoint in a route.

To Course— The recommended direction to steer in order to reduce course error or stay on course. Provides the most efficient heading to get back to the desired course and proceed along your route.

Track— The direction of movement relative to a ground position. Also referred to as 'ground track'.

Trip Odometer— A running tally of distance travelled since last reset. Also see 'Odometer'.

Total Average Speed— Average speed of unit for both moving and stopped speeds since last timer reset.

Total Trip Timer— Total time the unit has been in operation since last reset of the trip timers.

Turn— The angle difference between the bearing to your destination and your current track. 'L' indicates you should turn left, 'R' indicates you should turn right. The degrees indicate the angle you are off course.

VMG— Velocity Made Good. The speed you are closing in on a destination along a desired course. Also referred to as the 'vector velocity' to your destination.

Installing and Removing Data Cards

The GPSMAP 2006/2010 uses optional Garmin marine BlueChart and MapSource data cards to display digital charts and maps on-screen or save user data (pg. 69). Data cards are installed in the card slots located on the left side of the unit. Up to two data cards may be installed or removed at any time, whether the unit is on or off.

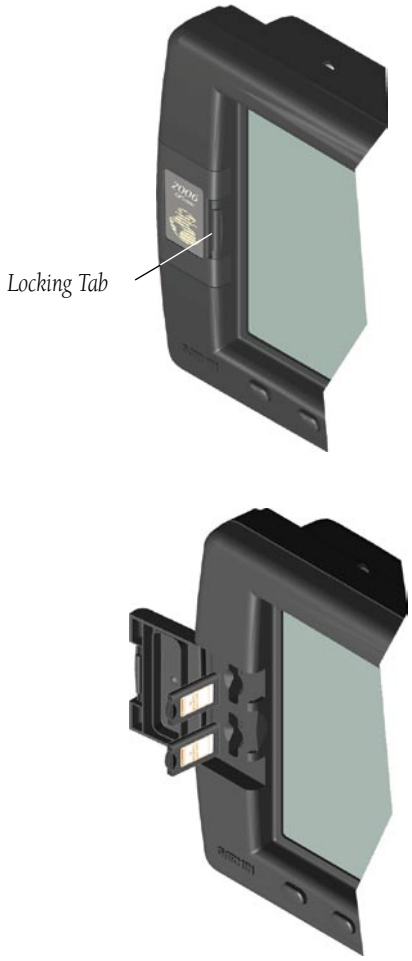
To install a data card:

1. Open the card door by pressing the locking tab on the door towards the outside (left) of the unit and lifting the door open from right to left.
2. Insert the card(s), with the label facing right and the handle towards you, into the slot.
3. Firmly push the card into the unit. It is not necessary to force the card and about 3/16" (5mm) will still be exposed when it is properly inserted. If the unit is on, a confirmation tone will sound. The first time you insert a programmed data card, the unit will take a few seconds to read the card. Once the data card has been been properly installed and accepted, a summary screen noting the card details will appear. Press **ENTER/MARK** to acknowledge.
4. Close the cover until the locking tab on the door snaps into place.

If you insert a data card and get a 'card format not recognized' message, try removing the card and reinserting it. If the card is still not recognized, contact the Garmin or your Garmin dealer for assistance. Data cards are not waterproof, should not be exposed to moisture or excessive static charges, and should be stored in the case supplied with the card. Be sure to keep the data card door closed when not inserting or removing data cards.

To remove a data card:

1. Open the card door by pressing the locking tab on the door towards the outside (left) of the unit and lifting the door open from right to left.
2. Grasp the card handle and pull towards you firmly.
3. If the unit is on, a confirmation tone will sound when the data card has been removed.
4. Close the cover until the locking tab on the door snaps into place.



Appendix F
Specifications and Interfacing

Interfacing

The following formats are supported for connection of external devices :

Approved sentences for NMEA 0183, version 2.3* output only on Port 1 and 2: GPRMC, GPGGA, GPGSA, GPGSV, GPGLL, GPBOD, GPRTE, and GPWPL. Proprietary sentences— PGRME and PGRMZ.

Approved sentences for NMEA 0183, version 2.3* sonar input only on Port 1 and 2: DBT (Depth Below Transducer), DPT (Depth), MTW (Water Temp) and VHW (Water Speed & Heading)

If attaching a 3rd party GPS receiver, the following are approved NMEA 0183, version 2.3* GPS input only on Port 4: GPGGA, GPGSA, GPGSV, and GPRMC.

For port wiring, refer to the GPSMAP 2006/2010 Installation Guide.

*Units with software version 5.20 or higher will use NMEA 0183, version 3.01. No additional NMEA sentences have been added or removed in 3.01.

Documentation concerning NMEA sentences is available for purchase from NMEA at:

National Marine Electronics Association (NMEA)
Seven Riggs Avenue
Severna Park, MD 21146
U.S.A.
410-975-9425
410-975-9450
www.nmea.org

Physical Specifications

Size: 2006/2006C: 6.5" H x 10.3" W x 3.3" D (16.5 x 26.2 x 8.4 cm)
2010/2010C: 8.8" H x 13.1" W x 3.0" D (22.4 x 33.3 x 7.6 cm)

Weight: 2006/2006C: 3.0 lbs. (1.4 kg) 2010/2010C: 5.0 lbs. (2.3 kg)

Display: 2006: 7.2" diagonal (18.3 cm) 2010: 9.4" diagonal (23.9 cm) high resolution, 10-level grayscale LCD with adjustable backlighting (640 x 480 pixels)
2006C: 6.4" diagonal (16.3 cm) 2010C: 10.4" diagonal (26.4 cm) high resolution, 256-color LCD with adjustable backlighting (640 x 480 pixels)

Case: Fully gasketed, high-impact plastic alloy, waterproof to IEC 529-IPX-7

Temp. Range: 5°F to 158°F (-15°C to 70°C)

GPS Performance (with GPS 17)

Receiver: Differential-ready 12 parallel channel WAAS capable receiver

Acquisition Times:
- Warm: Approx. 15 seconds
- Cold: Approx. 45 seconds
- AutoLocate: Approx. 2 minutes

Update Rate: 1/second, continuous

GPS Accuracy:
Position*: <15 meters (49 feet), 95% typical*
Velocity: 0.05 meters/sec steady state

DGPS (USCG) Accuracy:
Position: 3-5 meters (10-16 feet) with optional Garmin DGPS receiver, 95% typical*
Velocity: 0.05 meters/sec steady state

DGPS (WAAS) Accuracy:
Position: <3 meters (10 feet), 95% typical*
Velocity: 0.05 meters/sec steady state

Dynamics: 6g's

* Subject to accuracy degradation to 100m 2DRMS under the U.S. DOD-imposed Selective Availability Program.

Power

Source: 10-32v DC

Usage: 24 watts max. at 8v DC

Fuse: AGC-5 - 5.0 Amp

Appendix G

Packing List / Accessories & Unit Care

Before installing and getting started with your unit, please check to see that your package includes the following items. **If any parts are missing, please contact your Garmin dealer immediately.**

Standard Package:

- GPSMAP 2006/2010 Unit
- GPS 17 Antenna with 30' cable
- Gimbal Mount and Knobs
- Power/Data Cable
- Owner's Manual
- Quick Reference Guide
- Installation Guide
- Protective Cover
- Flush Mounting Hardware

Optional Accessories:

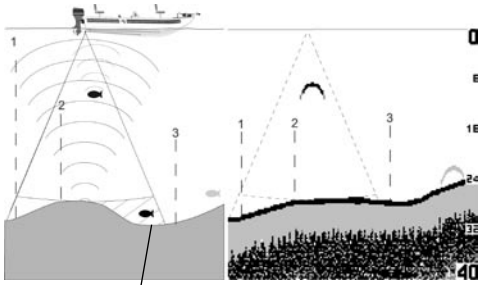
- GSD 20 Sounder Module (requires transducer)
- US A/C PC Adapter
- EURO A/C PC Adapter
- Cigarette Lighter Adapter
- Blank or Preprogrammed Data Cards with BlueChart Marine Cartography
- MapSource CDs: U.S. Waterways & Lights, Fishing Hot Spots®, Roads & Recreation, WorldMap
- USB Data Card Programmer
- DGPS 53 GPS/Beacon Receiver
- GBR 23 Beacon Receiver
- Second Mounting Station

UNIT CARE

Cleaning - *The GPSMAP 2006C/2010C lens is coated with a special anti-reflective coating which is very sensitive to skin oils, waxes and abrasive cleaners. CLEANERS CONTAINING AMMONIA, ALCOHOL, ABRASIVES, OR ANTI-GREASE DETERGENTS WILL HARM THE ANTI-REFLECTIVE COATING. It is very important to clean the lens using an eyeglass lens cleaner which is specified as safe for anti-reflective coatings and a clean, lint-free cloth. Units with a monochrome display may use the same cleaning method.*

The unit's case is constructed of high quality material and does not require user maintenance other than cleaning. Clean the unit housing using a cloth lightly dampened with a mild detergent solution and then wipe dry. Avoid chemical cleaners and solvents that may damage plastic components. Do not apply cleaner to electrical contacts on the back of the unit.

Storage - *Do not store the unit where exposure to temperature extremes may occur (see pg. 86), as permanent damage may result. User information, such as waypoints, routes, etc. will be retained in the unit's memory, without the need for external power. It is always a good practice to back up important user data by manually recording it or downloading it to a PC (see pg. 75).*



This fish is currently in a dead zone and is not detected by the sonar. The fish is in the coverage area of the transducer, but remember– the first strong return sets the bottom level. The fish will eventually be detected when the first strong return sets the bottom level below the fish.

Understanding Sonar

If you are unfamiliar with basic sonar, or need help determining what is displayed on the graph, this section may be for you. This section is intended to help the novice user gain some understanding of how the GPSMAP 2006/2010 operates when combined with a GSD 20 Sonar Module and how it can help improve their fishing productivity.

To understand what the unit is displaying, it is important to have a general knowledge of how the unit works and how it determines what to display. Briefly described, the unit operates by transmitting sound waves toward the bottom of a lake, stream, or seabed in a cone-shaped pattern. When a transmitted soundwave strikes an underwater object such as the bottom, a piece of structure, or a fish, sound is reflected back to the transducer. The transducer collects the reflected sound waves and sends the data to the unit to be processed and displayed on the graph. The underwater data is displayed on the graph in the order that it is returned: first returned—first on the graph. The diagram to the left demonstrates this by showing an underwater scene as it would be displayed on the graph. Generally speaking, if the only thing between the transducer and the bottom is water, the first strong return will come from the bottom directly below the transducer. The first strong return sets the bottom level. Weaker secondary returns provide the detailed data. Sonar returns display as reds (strongest), then oranges (strong), yellows (medium), greens (weaker), and blues (weakest) on color models and dark (strongest) to lighter (weaker) shades of gray on monochrome units.

That is a brief description of how your GPSMAP 2006/2010 operates when combined with a GSD 20 Sonar Module. The following pages will show how this data can help you to improve your fishing.

Transducer Coverage

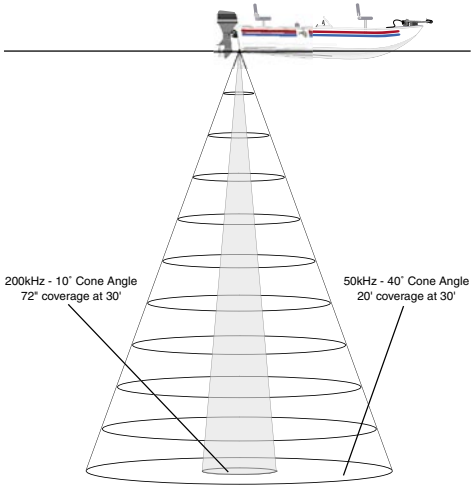
The area covered by the transmitted sound waves is determined by the cone angle of the transducer and the water depth. Cone angles may vary between different types of transducers. For example, a 50kHz frequency may provide a “wide” 40° cone angle, with a coverage width that is approximately 2/3 of the water depth. As shown in the sidebar, the 40° cone angle (50kHz frequency) approximately covers the area of a 20-foot diameter circle at a 30-foot depth. A 200kHz frequency may provide a “narrow” 10° cone angle, with a coverage width that is approximately 2/10 of the water depth. As shown, the 10° cone angle (200kHz frequency) approximately covers the area of a 6-foot diameter circle at a 30 foot depth.

When using the GPSMAP 2006/2010 with GSD 20 in ‘Dual’ frequency mode, the unit transmits both 50kHz and 200kHz signals at the same time. The ‘Dual’ frequency capability of the GPSMAP 2006/2010 with GSD 20 allows you to have a large coverage area and still retain good bottom resolution. When in ‘Dual’ frequency mode the unit uses the narrow cone angle (200kHz) to display detailed bottom information, keeping “Dead Zones” to a minimum, and the wide cone angle (50kHz) for the large coverage area.

Fish returns from the wide and narrow beams will appear differently on the display. The wide beam tends to show longer fish returns than the narrow beam.

Wide Cone Angle

Narrow Cone Angle

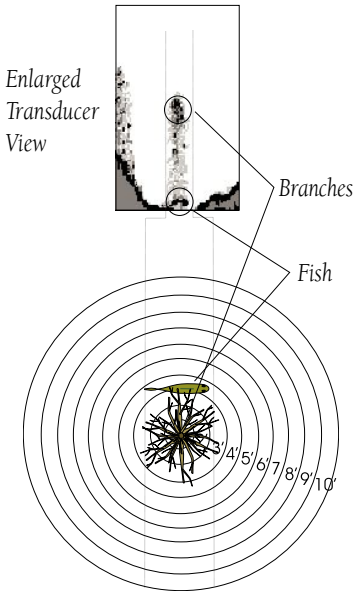


Remember that the sonar displays a 2-D picture of the underwater environment. The fish and tree could be located anywhere in the coverage area at that time.

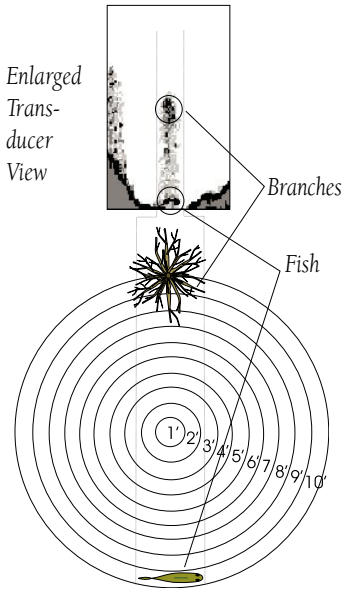
Understanding the Graph

It is important to understand that the unit does not display a 3-D representation of the underwater environment. The unit can display multiple things at the same time, but cannot determine where the return originated – only when it was received.

Examples 1 and 2 provide a look at the underwater world from a top view, and illustrate how these views would be displayed on the graph. On both graphs it appears the fish and tree are side by side as shown in Example 1. However, when we look at Example 2, we see that the fish can be several feet from the tree. It is important to remember that the sonar cannot determine where in the coverage area the tree or fish are, only that the returns were received at the indicated depths in the same time frame.



Example 1.

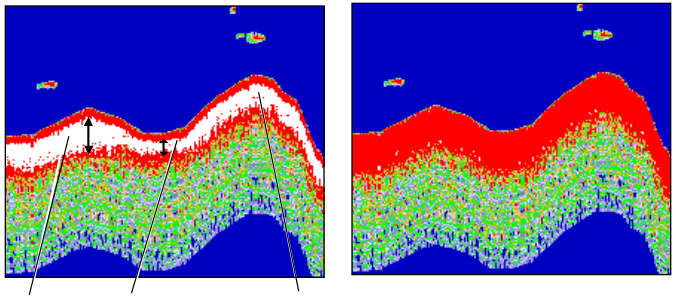


Example 2.

Whiteline

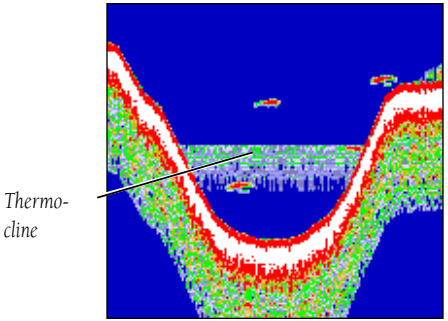
The GPSMAP 2006/2010 with GSD 20 can help you to determine if the bottom is hard or soft. When the sonar soundwaves are reflected back by the bottom, a hard bottom will return a stronger signal than a soft bottom. A thin whiteline indicates a softer bottom while a thick whiteline indicates a harder bottom. Normally, a red/dark line is used to show the point where water meets the bottom. This line will follow the bottom contour, along with any significant objects lying on the bottom. The unit uses the whiteline function to make this bottom layer information easier to distinguish.

With the GPSMAP 2006/2010 and GSD 20, active whiteline helps accentuate where strong signals are located, which make bottom type determination easier. The example to the right shows the bottom return with and without the whiteline activated.

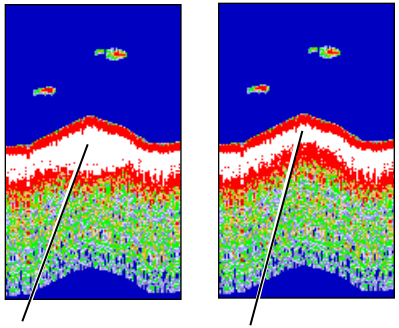


Thermoclines

One of the unique features offered by Garmin is See-Thru technology. See-Thru technology allows the GPSMAP 2006/2010 with GSD 20 to "see" through thermoclines and helps locate fish where they live; and fish love thermoclines! A rough definition of a thermocline is a break in water where the water temperature changes faster than the water above it. Thermoclines are shown as the weakest colors (see pg. 24)



Whiteline can also help you to determine the type of bottom structure that is displayed on the graph. By determining the hardness of the structure, you can make a better informed decision on the type of structure.



Structure is hard—probably a rock or stump

Structure is soft—probably a mud pile

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